Petroglyph Operating Company
December 2010 Monthly Report

Covering the period of 12/10/2010 through 1/17/2011

Prepared for
Colorado Oil and Gas Conservation Commission

January 27, 2011

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Petroglyph Operating Company, Inc.
Monthly Report – December 2010

Petroglyph Operating Company, Inc. (Petroglyph) is submitting this monthly report for the activities that have occurred at their Little Creek Field in the Raton Basin from the end of the last reporting period through January 17, 2011. Along with this monthly report, Petroglyph is submitting an electronic copy of all data including Microsoft Excel spreadsheets from which the attached summaries and graphs were created.

1.0 Phase 1 and Phase 2 Remediation System

The Phase 1 remediation system associated with the Methane Investigation, Monitoring and Mitigation Program (MIMMP) operated from December 8, 2008 through the start of the Phase 2 remediation system on August 6, 2010. Therefore, remediation at the site has been operational for approximately twenty-three months. The Phase 1 remediation system consisted of 4 recovery wells and 8 injection wells all completed in the Poison Canyon Formation and designed to pump water with methane, allow the methane to off gas and return the water to approximately the same location from which it was pumped.

The Phase 2 remediation system consists of 4 recovery wells in the Poison Canyon Formation and differs from Phase 1 in that it allows for pumping a limited amount of additional water from the Vermejo Formation from up to 2 production wells (Rohr 04-10 and Rohr 09-10) at a rate not exceed a total of 1,000 barrels per day or approximately 29 gpm. The additional water will be combined with the Poison Canyon water and sent through a reverse osmosis treatment system before being injected into the Poison Canyon Formation using the 8 injection wells. The addition of water during Phase 2 operations will result in a hydraulic barrier to movement of methane outside of the ring of injection wells in the remediation system.

Gas Flows in Remediation Wells

The Phase 1 system was started with pumping from Recovery 1 Kittleson and Recovery 3 PEI. Recovery 1 gas production was initially 25.7 MCFD and has dropped to a reading of approximately 0.0057 MCFD at the start of this reporting period. During the period the high value was 5.6 MCFD and there were several days where the well was not pumped resulting in no gas flow (12/3-12/4, 12/8, 12/21 and 1/3/2011). Since the start-up of the Phase 2 system, pumping at Recovery 1 has been down more often than has been typical of past operations. When the recovery well pump goes down, even for a few hours as was the case during this reporting period, it often takes 1 to 3 days before normal gas flows resume.

Recovery 3 gas flows were measured at approximately 0.75 MCFD at the start of Phase 1 remediation and increased to approximately 1 MCFD and remained around 1 until late February 2009 and then began a slow and steady decline. Recovery 3 was shut down on 8/25/2010 because previous water analyses had shown high TSS results and bacteria problems which affect the operation of reverse osmosis system. The well continued to be shut down during this reporting period.

Recovery 4 has shown variability during Phase 1 ranging between approximately 0.9 MCFD and 0 until mid April 2009 when the readings were consistently under 0.001 MCFD. Readings at Recovery 4 showed an increase beginning in late July/early August 2009 and have been a bit variable since that time. During this reporting period the readings for Recovery 4 showed a slight overall increase with starting reading of 0.16 MCFD and an ending reading of 0.2897 MCFD. The low reading for the period was 0.16 MCFD and the high reading was 0.2994 MCFD. This well has not been pumped since early April 2009.

Gas flows at Recovery 5 are estimated from Barton recorder data. Recovery 5 gas flows continued to show an overall decline. Initial readings from this well were between 15 and 20 MCFD. The well has not shown any gas since 11/17/10 and was shut-in on 12/3/10 due to no gas flow.

There is no gas flow in the Rohr 4-10 production well which is being pumped to provide additional water for the hydraulic barrier of the remediation system. The Rohr 4-10 well has not produced any gas during the current pumping and did not produce gas during full production.

Gas flow in POCI 55 monitoring well and the Recovery wells is shown graphically in Attachment 1. The POCI 55 well has not shown any gas flows since April 2008 shortly after the Phase 1 remediation system became fully operational.

The gas flow data does not appear to show any significant impact from the Phase 2 operations. The gas flow in Recovery 5 has been declining since the start of pumping in that well in December 2009. Recovery 1 Kittleson has also continued to slowly decline. Both of these wells were declining prior to Phase 2 and such a decline would be expected as a result of efforts to remove methane from the Poison Canyon Formation. As discussed below the effects of injecting additional water are beginning to be seen in some of the water well pressure data.

Pumping and Injection Rates in Remediation Wells

The average pumping rate for Recovery 1 was 13.20 gpm during the reporting period, down from the average rate of 19.10 gpm for the last reporting period. The Recovery 3 well pumped at such a low volume and was quickly depleted that this well was shut-in on 8/25/2010. Recovery 4 is not functioning properly as explained in previous monthly reports and has not been pumped since early April 2009. Recovery 5 pumped at an average of 6.2 gpm during the last reporting period. Due to no gas flow the well was shut-in on 12/3/2010, just prior to the start of this reporting period. The Rohr 04-10 production well, activated as part of the Phase 2 remediation, pumped 5.8 million gallons of water at an average rate of 28.6 gpm. The Rohr 09-10 is expected to be used only as a back up well and has not yet been pumped for the Phase 2 operations.

Injection started in Injection 01 and 04 on December 9, 2008 and Injection 02, 03, 05, 06 and 07 on December 10, 2008 (Table 1). Injection rates vary for the individual injection

wells and range from 1.3 to 10.2 gpm during this reporting period with individual wells showing both increases and decreases in injection rates during the period. The two wells on the Rohr property (Injection 04 and 05) have accepted the most water. Injection 08 Haeffner has not accepted water very well. Most of the approximately 28 million gallons of water that have been recovered have been re-injected following methane off gassing and flaring during Phase 1 and the reverse osmosis treatment of Phase 2. The total Vermejo water injected into the Poison Canyon since the start of Phase 2 is approximately 5.2 million gallons. The Phase 2 reverse osmosis system creates a filter residue which does include some water which is not re-injected.

Petroglyph has an extensive monitoring program for domestic water wells surrounding the remediation system for changes in both water levels and in gas detected at the wellhead. In addition, Petroglyph monitors several of their production wells for changes in water level. All of these results are discussed in subsequent sections of this report. None of the monitoring has ever shown unexpected or adverse results that can be directly attributable to the remediation system pumping.

Water Treatment System

The reverse osmosis system for water treatment has been operating as expected and has been reducing levels of fluoride in the pumped water to well below the limit of 4 mg/L with levels during this reporting period of 0.13 mg/L. Boron levels in the injected water were approximately 90 µg/L. The system produces an average of 10% brine solution including the flush water. Approximately 4115 barrels of brine were shipped during the month of December.

2.0 Phase 2 Sampling Plan

Fluoride, Boron and Dissolved Methane

The Phase 2 remediation system sampling plan requires additional water quality samples be taken to determine the quality of the injected water. This included weekly sampling of fluoride and boron at the finished water tank or at Injection No. 5 well during the first month of the Phase 2 system. The monitoring for the remainder of the first year of operation is monthly since the levels for the first month were below the permit limits. Results of the samples for the month of December are shown in Table 2a. Samples did not exceed the permit level of 4.0 mg/L for fluoride and the reporting level of 0.5mg/L for boron.

The recovery well dissolved methane samples at Recovery 1, Recovery 3, Recovery 05 and Rohr 04-10 were measured weekly during the first month of Phase 2. The first month's results indicated that a 50% dissolved methane reduction is being achieved prior to injection, therefore monitoring has been reduced to monthly. Results from this reporting period are shown on Table 2b. Note that although Recovery 5 was measured for dissolved methane on December 2, 2010, the well was shut in on December 3, 2010 and did not provide an appreciable contribution to the pumping. Therefore the calculations for reduction in dissolved methane were made using only the contributions from Recovery 1 and Rohr 4-10. During this reporting period dissolved methane readings in Recovery 1

were somewhat higher than previous readings. The results from both wells were averaged, using a weighting system based on average pumping rates from each well contributing to the water to be injected, to determine the recovery well dissolved methane concentration. This resulted in a weighted average dissolved methane concentration in the recovery wells of 19,211 µg/L. This background methane concentration is significantly higher compared to the 05 Rohr site with a reading of 400 µg/L taken on 12/2/10. The reduction achieved based on the dissolved methane reading from Injection 05 Rohr was approximately 97.9%; therefore more than a 50% reduction in dissolved methane is being achieved.

Domestic Well Water Quality Before and After Initiation of Phase 2

Item 5 of the Phase 2 Conditions of Approval issued by the COGCC states:

> *"…Collect and analyze samples from all water wells inside the injection ring after 2 months of operation and before three months of operation. Collect and analyze samples from at least four water wells outside the injection ring but within 1 mile (one well in each quadrant of the ring) for comparison to previous analytical data from the same wells. These samples shall be collected after three months of operation and before four months of operation. Sampling will be conducted at a frequency of no less than yearly after initial sampling following initiation of Phase 2. Frequency of sampling will be quarterly in the first year of operation of Phase 2."*

To complete this analysis, water quality samples collected by both the COGCC and Petroglyph were compiled and analyzed for changes before and after the injection of reverse osmosis treated water associated with Phase 2. Tables 3 and 4 were provided which show the existing data prior to Phase 2 and for the samples collected after the initiation of Phase 2 for wells inside the mitigation ring (Table 3) and outside the mitigation ring (Table 4). Both tables are included in this monthly report. Table 4 has been updated to show two additional pre-injection samples for Wolahan. The addition of these samples did not change the conclusions previously reach as discussed below.

The water quality from wells inside of the mitigation ring did not show any measured values after injection which exceeded either EPA of COGCC regulatory standards except for those that exceeded the standard prior to the initiation of injection.

For wells outside of the mitigation ring, none of the measured values after injection exceeded either EPA or COGCC regulatory standard that did not already exceed the standard prior to the initiation of injection with the exception of the secondary standard for sulfate in the Burge and McPherson samples and the secondary standard for total dissolved solids in the McPherson sample.

The sulfate value in the Burge samples have been close to the secondary standard in the first and second samples from December 18, 2008 and June 9, 2009 at 240 and 236 mg/L, respectively, and the most recent sample collected on November 11, 2010 showed a

relative percent difference of only 10% compared to the historical samples at a value of 260 mg/L and just above the regulatory standard of 250 mg/L. This is not considered significant and is considered due to natural variation and within sampling and analytical error.

The McPherson well data does show an increase in TDS from approximately 490 mg/L in 2008 and 2009 samples to 670 mg/L in the 2010 sample and sulfate increased from approximately 230 mg/L in 2008 and 2009 samples to 390 mg/L in the 2010 sample. The increase in TDS is related to sulfate, calcium and sodium. The McPherson well is located at a youth ranch and is infrequently used and the increase could be related to poor well maintenance and or insufficient purging prior to sampling. The change is considered to be related to other processes and not as a consequence of the mitigation system operations. The McPherson well is further than most of the other wells in the area and the other domestic wells do not show any indication of water quality changes related to the mitigation system.

Soil Gas Flux Survey of Seeps 643 and 644

Item 2 of the Phase 2 Conditions of Approval issued by the COGCC states:

> *"2. Survey soil gas concentrations and fluxes at COGCC Raton Basin Phase II Baseline seeps 643 and 644… An initial survey of soil gas concentrations and gas flux must be performed within 60 days after completion of the field work needed to map the seeps and determine the flux of methane at the sites. The survey will be repeated annual while Phase II is in operation."*

To complete this analysis Petroglyph retained LT Environmental, Inc. A copy of the complete report is included in the electronic submittal of the data for this report (electronic file titled "LTE report 2010 seeps 643 and 644") and summarized below.

Seep area 643 is located along Bear Creek Road approximately three miles south of Walsenburg, Colorado in Huerfano County. Seep area 644 is located on County Road 358 approximately 10 miles southwest of Walsenburg, Colorado in Huerfano County.

Field mapping of seep areas 643 and 644 consisted of utilizing a West Systems, LLC portable flux meter to measure sample points in a grid to determine the magnitude and extent of methane seepage within each survey area. The flux meter was previously used to measure soil methane flux at seep area 643 in 2007 and seep area 644 in 2007 and 2008. Surveys were not completed in 2009.

Detailed flux mapping at seep area 643 was conducted on December 15 and 16, 2010. Methane flux was not detected within the accessible mapping area of seep area 643. As a result, seep area 643 has an estimated total reportable volumetric methane flux rate of 0.0 thousand cubic feet per day.

Detailed flux mapping at seep area 644 was conducted on December 15 and 16, 2010. Methane was detected at 10 flux points in seep area 644 with only one measurement

[0.555 moles per meter squared per day (moles/m^2·day)] detected above the flux meter reporting limit of 0.2 moles/m^2·day. As a result, seep area 644 has an estimated total reportable volumetric methane flux rate of 0.13 MCFD. The methane flux values are much lower in 2010 than in previous surveys conducted in 2007 and 2008.

3.0 Ongoing Investigation

Aquifer Characterization

Petroglyph continues to evaluate data collected through the remediation system operation and ongoing monitoring. A geologic model was created for the site using PETREL software and actual data from well logs completed during drilling of the remediation wells. Modeling of the flow of gas and water was completed using actual data and Computer Modeling Group Ltd.'s IMEX software. Updates to the model will periodically occur using data collected from the remediation system. The model updates will be provided as they are completed. The last model updates verified that the remediation system is reducing and containing the methane as projected during initial modeling and planning for the remediation system.

Gas Isotope, Dissolved Methane and Water Quality Sampling

The attached data disk includes the results from analyses received during this reporting period for four injection and recovery well samples (Injection 5 Rohr, Recovery 1 Kittleson, Recovery 5 Masters and Rohr 04-10). All of the wells were sampled for gas results. The recovery and injection well sampling are used to demonstrate that the dissolved gas reduction is at least 50% as discussed in the previous section. The results for dissolved methane sampling for those samples received since the last reporting period are shown in Table 5. Note that all of the dissolved methane sampling results are included on the data disk in the spreadsheet named "dissolved gas results 11-17-10."

Methane Source Investigation

Petroglyph continues to evaluate the data from monitoring in the domestic wells in the vicinity of the production wells and closer to the outcrop. The BLM wellhead and the Haupt #1 wellhead continue to show measurable methane in wellhead monitoring. Any additional information on the ongoing investigation will be included in the monthly reports and/or in separate reporting as the data is collected and evaluated.

4.0 Monitoring

Down-hole Pressure and Fluid Level Monitoring

Private Wells

Petroglyph has installed continuous pressure monitoring for fluid levels in water wells at Barrett, Bergman and Coleman located within one mile of the remediation system; Meyer located in the River Ridge Ranch Subdivision but more than one mile from the remediation system; Bruington located in City Ranch Subdivision; and Garza-Vela located in the Silver Spurs Ranch Subdivision.

Information from these wells is downloaded monthly by Petroglyph, graphed, and included in electronic data disk with this monthly report. The POCI 55 Monitoring Well located near the remediation system also has a pressure gage. Attachment 2 shows graphically the changes in pressure for each of these wells. Attachment 4 is a combined graph showing the water levels in both the domestic wells monitored and Petroglyph production wells.

Water level elevations in the POCI 55 well increased from approximately 6247 to approximately 6251 feet through the monitoring period. Water levels at the Barrett well increased from approximately 6274 feet to 6276 feet at the end of the period. Bergman pressure and associated water levels increased from 6380 to 6382 feet at the end of the period. Coleman also showed an upward trend in water levels with a rise of 7 feet during the reporting period from approximately 6246 feet to 6252 feet. Increases in water level elevations in these wells have occurred consistently since the start of Phase 2 and appear to be in response to the increased amount of injected water (Vermejo water) associated with the Phase 2 remediation.

Pumping of Recovery 5 Masters ceased early in this reporting period. As a result water level monitoring for Recovery 5 is presented in Attachment 2. At the end of pumping the water levels were at approximately 6082 and they quickly recovered to 6235 followed by a more gradual increase to 6252 at the end of this reporting period. This value is higher than the approximate 6240 elevation of the water at the start of pumping in late 2009. The quick recovery followed by the slower increase through the end of the reporting period is likely indicative of the influences of the increased amounts of injected water under Phase 2 since the well lies within the remediation ring.

The Meyer well water elevations remained close to the same from the beginning to the end of the period at 6122 with some fluctuation of 2 feet or slightly more observed during the period. Meyer lies more than 3 miles outside of the remediation ring and the well is completed through the Poison Canyon and to the top of the Vermejo Formation. Overall water levels have risen fairly consistently since late September. Due to the distance from the remediation system injection wells, it is not clear that the rise in water levels is a result of the injection. The Bruington well continues to show an upward trend in water levels with a rise of approximately 3 feet during the reporting period from approximately 6111 feet to approximately 6114 feet. This well is located over five miles from the remediation system and has been showing a rise in water levels since approximately March of 2009 so is not believed to be rising in response to the additional injection volumes. Data for the Garza Vela well is not provided because a connection to the transducer could not be made. The transducer has been pulled and sent to In-Situ for repairs. If In-Situ recovers any data it will be provided in the next monthly report. The Gonzalez transducer showed a rise in pressure and associated water levels from approximately 6122.3 feet to approximately 6125.1 feet. This well is completed in the Vermejo Formation and lies closer to the outcrop and any changes in water level are not attributable to the increased injection.

Petroglyph Production Wells

Fifteen Petroglyph production wells are currently monitored for fluid level and casing pressure: Lively 02-02, Lively 02-12, Lively 03-01, Lively 03-10, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 04-14, Rohr 08-01, Rohr 09-04, Rohr 09-05, Rohr 09-10, State 36-02, State 36-05, State 36-11. The Lively 02-02, Lively 02-12, Lively 03-01, Lively 03-10, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 09-10, State 36-02, State 36-05, and State 36-11 are measured using an echometer. The echometer provides a general indication of water level trends. Two monitoring wells are also monitored continuously for water levels (Lively 03-03, and Lively 10-12). The monitoring occurs in the formation into which the wells are completed, the Vermejo/Trinidad Formation. Changes in fluid levels in Petroglyph production wells are shown graphically in Attachment 3.

Since Petroglyph is no longer pumping these wells to draw down water levels, pressure is equalizing within the Vermejo coals. Consequently, water levels have risen in all wells as would be expected, although the rate of rise is leveling off in most wells. Eight of the wells show no water level elevation change throughout the period: Lively 02-02, Lively 03-01, Lively 03-12, Lively 10-04, Rohr 04-10, Rohr 09-10, State 36-02 and State 36-05. Rohr 04-14 remained essentially unchanged comparing readings at the beginning and end of the period but did see fluctuations of approximately 2 feet during the period. Rohr 08-01, Rohr 09-04, and Rohr 09-05 showed slight increases of 3 feet, 3 feet and 5.8 feet respectively. Lively 02-12, Lively 03-10, State 36-11 showed more of a significant increase of 31 feet, 15 feet, and 15 feet respectively. The Lively 02-12, Lively 03-10 and State 36-11 are measured using an echometer so, as stated above, readings are more indicative of trends than actual measured footages.

Comparison of Production Well and Private Well Data

Attachment 4 compares the water elevations for certain Petroglyph production wells and the private wells which are measured and discussed previously. As shown in Attachment 4 the majority of the private wells have water levels significantly higher in elevation than the production wells. Production well water levels showed a large rise after pumping ceased (250-300 feet); however domestic well water levels have remained relatively constant to decreasing during the same period. This supports previous groundwater modeling and chemical analysis which indicate a lack of connection between the production wells in the Vermejo Formation and domestic wells in the Poison Canyon. Attachment 4 also includes a table which shows the completion interval, location and well status.

Gas Flow Monitoring In Domestic Wells

Gas flow monitors have been installed by Petroglyph at the Angely, Bounds, Bruington, Coleman, and Smith wells. All of these wells except for Bruington and Bounds lie within one mile of the remediation system. Continuous gas flow monitoring occurs at Coleman and Smith, while gas flow is spot monitored with a gage and orifice tester at Angely, Bounds, and Bruington. Gas pressure at the Bounds and Angely wells is currently monitored by COGCC or their consultant; however the data, when available, is presented in this report.

Attachment 5 includes graphs representing gas flow measurements from Bruington, Coleman, Angely, Bounds and Smith. The Bruington and Smith wells are not showing any gas. The water level recovery of the Bruington well precludes any gas flow so these results continue to show zero gas flow. Gas flow may resume when the well stabilizes. Gas concentrations at the wellhead are still monitored monthly and reported. The Coleman well only shows gas when the well is initially pumped. The Coleman well was not monitored during this reporting period. The Angely and Bounds wells were sampled during the reporting period by a consultant to COGCC and were both at a zero gas flow rate.

A drop in gas flow in the domestic wells appears to have occurred in correlation with the original implementation of the remediation system wells and venting of gas through these wells in late 2008 and early 2009 with continued decreases in gas flows from the remediation system recovery wells. This would indicate that the remediation system has been correctly located to remediate the area of largest gas concentration in the domestic wells.

Bi-Weekly and Monthly Water Well Monitoring

Petroglyph has routinely monitored for methane gas levels near 88 wellheads in the vicinity of the site. Measurements are taken near the wellhead, at the well vent and in some cases are also taken at the cistern or a second wellhead.

Table 6 shows all of the wellheads that are currently being sampled, the sampling start date, the date of the last sample, the number of samples since the last reporting period and a description of the sampling results and any changes from the previous reporting period. A column that discusses the historical readings for each site is included on the table.

Of the 88 wellheads, 10 were not sampled during this reporting period. Sampling may vary during any one reporting period due to a variety of reasons. During this reporting period 46 wellheads were sampled once, 11 wellheads were sampled twice, 1 wellhead was sampled nine times, and 20 wellheads were sampled 10 times.

As shown on Table 6, the wellheads sampled bi-weekly, in accordance with the Phase 2 Sampling Plan, during this reporting period were those within one mile of the remediation system. The Angely and Bounds wells are monitored by a consultant to COGCC and results for the sample events were reported to Petroglyph.

Monitoring results for the 78 wellheads sampled during this period showed that overall gas levels at 49 wellheads had no change from the previous monitoring period measurements and no detectable methane and 2 wellheads showed no changes but had detectable methane (Houghtling and O. White). Changes in % LEL, % by volume CH4, and % volume O_2 were evaluated to determine if the area around the wellheads was showing an indication of increasing or decreasing methane gas content as a result of Phase 2 operations. Of the remaining 27 wellheads, methane gas at 11 wellheads decreased; 4 of which decreased to no detectable methane (Lively 10-02, Speh, Degan, and T. Eddleman); 16 wellheads showed an increase with 5 increasing from no detectable

methane to detectable methane (Dale, Cramer, Fitzner, Gumpert and J. White). There are no discernable trends in the monitoring data which can be attributed directly to Phase 2.

Petroglyph compared those wells showing any detectable methane readings or changes in methane monitored during the reporting period with wells known to have been drilled into the coals within the Raton or Vermejo Formations and lying within 1 to 1.25 miles of the outcrop. Of the 25 wellheads reading detectable methane at the end of the reporting period (Barrett, Bergman, Bounds, Golden Land Cycle, Hopke, Houghtling, BLM 15-12, Meyer, Bruington, Dale, Gonzalez, Haupt #1, Hurley, Johnson, Tobyas, Goza, Cramer, P. Eddleman, Fitzner, Gumpert, Lyon, Morris, Sample, Jim White, and Orlie White), 4 are known to have been drilled into the Poison Canyon based on well depths in well logs available from the State Engineer with all of these lying within or in close proximity to the remediation ring area. Thirteen are known to have been drilled into the Vermejo Formation or deeper. Many of the wells completed in the Vermejo lie closer to the outcrop and routinely experience fluctuations in methane levels from none detectable to higher levels. The completion for the remaining 8 wells is not known.

The breakdown by subdivision or area as on Table 6 is as follows:

Within 1 Mile of Remediation System

- Gas near 25 wellheads routinely monitored
- All wellheads but Lively 10-02, BLM, Angely and Bounds were monitored bi-weekly during the reporting period.
- All the wellheads were sampled during this reporting period
- 18 wellheads showed no change from the beginning to the end of the period: 17 with no detectable methane and 1 (Houghtling) with detectable methane
- Two of the 18 wellheads reporting no change from beginning to end readings and no detectable methane (English and Smith) did show a spike of methane in one reading during the period; English has never shown methane levels and Smith had not reported detectable methane since October 2009. Based on past results these single methane readings may have been in error.
- 3 wellheads showed a decrease in methane (Golden Cycle, BLM and Lively 10-02) with one decreasing to no detectable methane (Lively 10-02)
- 4 wellheads showed increases in detectable methane (Barrett, Bergman, Bounds, Hopke)
- Detectable methane was measured consistently at 7 wells during the reporting period (Bounds, Bergman, Barrett, Golden Cycle Land, Hopke, Houghtling and the BLM Well)

River Ridge Ranch Subdivision and Vicinity Outside of One Mile

- Gas near 21 wellheads is routinely monitored
- 16 wellheads were sampled once during this reporting period; 5 wellheads were not sampled

- 14 wellheads showed no change with no detectable methane gas
- 2 wellheads showed a decrease in methane gas, one of which was a decrease to no detectable methane(Speh)
- 1 wellhead had detectable methane during the period (Meyer)

City Ranch and Other Properties

- Gas near 15 wellheads is routinely monitored
- 13 wellheads were sampled during this reporting period; 2 wellheads were not sampled.
- 10 wellheads were sampled once, and 3 wellheads were sampled twice
- 5 wellheads showed no change with no detectable methane gas
- 5 wellheads showed an increase, 2 of which were slight increases (Dale, Gonzalez, Hurley, Johnson, and Tobyas). Dale increased from no detectable methane to detectable methane.
- 3 wellheads showed a decrease in methane (Bruington, Haupt #1 and Degan) with one decreasing to zero (Degan)
- 7 wellheads showed detectable methane during the period (Dale, Gonzalez, Hurley, Johnson, Tobyas, Bruington, Haupt)

Silver Spurs Ranch

- Gas near 24 wellheads routinely monitored
- 21 wellheads were sampled once during this reporting period; 3 wellheads were not sampled
- 12 wellheads showed no change with all but one showing no detectable methane gas
- 6 wellheads showed an increase in methane levels (Cramer, Fitzner, Gumpert, Morris, Sample, and J. White) with 4 wells increasing from no detectable methane to detectable methane (Cramer, Fitzner, Gumpert, and J. White)
- 3 wellheads showed a decrease in methane levels (P. Eddleman, T. Eddleman, and Lyon), one of which decreased to zero (T. Eddleman)
- 9 wellheads showed detectable levels of methane during the period (Cramer, Fitzner, Gumpert, Morris, Sample, J. White, O. White, P. Eddleman, Lyon)

Black Hawk Ranch

- 3 wellheads were sampled once during this reporting period
- 2 wellheads showed no change with no detectable methane gas.
- 1 wellhead (Goza) showed a slight increase in methane levels.

Table 7 shows the current monitoring schedule including which wells are monitored bi-weekly and which wells are monitored monthly or at a different frequency.

Attachment 6 includes charts of gas monitoring of eighteen wells near the mitigation system. The wells being monitored have not indicated a direct response to the

remediation pumping and injection. Of the wellhead charts included in Attachment 6 only those for Barrett, Bergman, Golden Cycle Land, Lively 10-02, Houghtling and Hopke showed methane in recent readings. The Smith wellhead showed one detectable methane reading during the period and then returned to no detectable methane. This wellhead has not shown detectable methane in the recent past. The last reading was October 2009 where detectable methane was reported at 0.9% by volume and before that was in July 2009 at 8%. The Lively 10-02 wellhead also showed a small increase in detectable methane in one reading and then returned to no detectable methane. Detectable methane has not been measured at this wellhead since August 2010 but sporadic methane readings do occur every couple of months.

Around the time of the startup of Phase 2 both Barrett and Bergman showed decreases in methane levels and previous reports indicated this could be a result of the Phase 2 pumping. However, since late October the methane levels have increased to levels similar to what was seen before the start of Phase 2. The remaining wellheads with detectable methane readings do not appear to represent any new or unusual charges to the wells as a result of Phase 2.

Hand Held Measurements

Petroglyph conducts periodic ground surveys using a hand held methane detector at locations where gas has previously been detected, at locations where a property owner requests such a survey or at locations where previous surveys such as the helicopter survey have detected gas seepage. These surveys are conducted based on need or urgency so can range from several times a week to a one time survey based on concerns from a property owner. No handheld surveys were collected during the reporting period.

5.0 Mitigation

Methane Alarms

No activity occurred during the reporting period related to maintaining methane alarms or responding to any methane alarms. There are currently a total of 15 homes with alarm systems provided by Petroglyph. No alarms have ever been triggered by the presence of methane.

Water Supply

Petroglyph is currently providing water to 16 homes. Table 8 provides a list of the homes currently receiving water. Water is delivered as needed and can vary from month to month due to residential water use and whether or not the homes are occupied.

Public Outreach

Craig Saldin of Petroglyph attended a River Ridge Ranch Board meeting on January 18, 2011.

Health and Safety/Emergency Planning

No changes to Petroglyph health, safety and emergency planning occurred during the reporting period.

6.0 Schedule

The following is the currently anticipated schedule for Phase 2 of the Methane Investigation Monitoring and Mitigation Program.

- Continued pumping and injection of the Phase 2 system with ongoing monitoring to evaluate the response in surrounding wells.
- Implementation of the Phase 2 Sampling Plan with special samples taken in accordance with the Plan
- Routine bi-weekly, monthly and quarterly sampling will continue with new sampling sites added as needed.
- Hand held seep monitoring will continue as needed.

Table 1: Recovery and Injection Rates associated with Phase 1 and 2 MIMMP (water flows as of 1/5/2011; gas flows as of 1/5/2011)									
Well Number	**Total Depth (ft)**	**PBTD**	**Injection Tubing Depth**	**Start-up Date**	**Average Injection Rate (gpm)**	**Water Total (gal)**	**Water Totals (bbls)**		**Notes**
Injection 01 Pascual	600	526	458	12/9/08	3.5	1,667,400	39,700		Average injection rate decreased from 4.1 gpm to 3.5 gpm.
Injection 02 Gonzales	600	575	362	12/10/08	3.9	1,759,800	41,900		Average injection rate decreased from 4.4 gpm to 3.9 gpm.
Injection 03 Benevides	725	629	454	12/10/08	1.3	1,293,600	30,800		Average injection rate decreased from 1.5 gpm to 1.3 gpm.
Injection 04 Rohr	675	667	455	12/9/08	8.4	7,140,000	170,000		Average injection rate decreased from 9.9 gpm to 8.4 gpm.
Injection 05 Rohr	750	735	458	12/10/08	10.2	8,769,600	208,800		Average injection rate decreased from 11.1 gpm to 10.2 gpm.
Injection 06 Masters	725	695	438	12/10/08	6.9	5,951,400	141,700		Average injection rate increased from 6.6 gpm to 6.9 gpm.
Injection 07 Walden	750	713	457	12/10/08	3.5	1,638,000	39,000		Average injection rate decreased from 3.8 gpm to 3.5 gpm.
Injection 08 Haeffner	650	713	365	12/10/08	see note	4,788	114		Well does not accept water very well. Inject approx. 150 gallons once every two weeks.
			Pump Depth		**Average Pump Rate (gpm)**			**Gas Totals (mcf)**	
Recovery 1 Kittleson	715	705	686	12/8/08	13.20	18,522,000	441,000	10,824	Average pumping rate decreased 19.10 gpm to 13.2 gpm
Recovery 3 PEI	625	591	575	12/8/08	1 (see note)	850,962	20,261	796	Intermittent pumping at 4 gpm. Rate over 24 hrs is approx 1 gpm. Shut-in 8/25/10.
Recovery 4 Barrett	500	484	463	2/10/09	(see note)	3,528	84	403	Last pump date 4/8/09
Recovery 5 Masters	847	847	822	12/24/09	(see note)	3,064,782	72,971	1,444	Shut-in well 12/3/10 due to no gas flow.
Rohr 04-10	2243	2219	2090	8/6/10 (see note)	28.6	5,838,000	139,000		Vermejo water supply for Phase 2 MIMMP.

Table 2a: Monthly Injectate Water Quality – December (grabbed at Injection 05 Rohr)

Date	Fluoride mg/L	Boron µg/L	Dissolved Methane µg/L
12/02/10	0.13	90	400

Table 2b: Monthly Dissolved Gas in Recovery Water – December (in µg/l)

	12/02/2010
Recovery 1 Dissolved Gas	11,000
Recovery 5 Dissolved Gas	17,000
Rohr 04-10 Dissolved Gas	23,000

Dissolved Methane in Produced Water to RO (wt. ave. Rec 1, Rohr 04-10)	**19,211 µg/L**
Dissolved Methane Average at Injection 05 Rohr as a Percentage of Weighted Average of Dissolved Methane in Recovery Wells	**2.1%**

Table 3
Domestic Well Water Quality For Selected Wells Inside the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Smith, WW			Coleman, V WW					Derowitsch, D WW					Hopke, B WW						Houghtling, J WW		Masters, T WW*	
mg/L except pH	7/9/2007	7/20/2010	10/13/2010	6/20/2007	11/10/2007	12/4/2008	5/9/2009	10/20/2010	9/18/2007	11/12/2007	12/8/2008	1/15/2009	10/12/2010	9/17/2007	10/17/2007	11/11/2007	12/29/2008	6/22/2009	10/12/2010	7/21/2010	10/14/2010	6/29/2009	10/11/2010
Antimony Dissolved											0												
Antimony Total		0	0		0	0	0	0		0		0	0		0	0	0	0	0	0	0	0	0
Antimony Total Rec					0					0		0				0	0						
Arsenic Dissolved											0			0									
Arsenic Total	0	0	0		0	0	0	0	0	0		0	0		0	0	0	0	0	0	0	0	0
Arsenic Total Rec					0					0		0				0	0						
Barium Dissolved											0			0									
Barium Total	0	0.0429	0.032		0.0592	0.048	0.054	0.085	0	0.0597		0.0593	0.059		0	0	0.0385	0.023	0.022	0.0245	0	0.052	0.028
Barium Total Rec					0.0592					0.0597		0.0593				0	0.0385						
Beryllium Dissolved											0												
Beryllium Total		0	0		0	0	0	0		0		0	0		0	0	0	0	0	0	0	0	0
Beryllium Total Rec					0					0		0				0	0						
Bicarbonate As CaCO3	83	97.7	65	153		154	148	60	190		200	206	200	155	130		146	138	140	81.8	81	78.6	100
Bicarbonate Pot Diss							148											138					
Boron Dissolved											0			0									
Boron Total	0		0		0	0	0	0	0	0		0	0		0	0	0	0	0		0	0	0
Boron Total Rec					0					0		0				0	0						
Cadmium Dissolved											0			0									
Cadmium Total	0	0	0		0	0	0	0	0	0		0	0		0	0	0	0.00051	0	0	0	0	0
Cadmium Total Rec					0					0		0				0	0						
Calcium Dissolved	4.8		4.9	4.2		2.6	0	4.9			3.2		5.3	12.1					7.1		7.4		
Calcium Total	4.8					2.6	0		6						11		0	7.5				3.9	1.9
Calcium Total Rec												3.79					0						
Carbonate As CaCO3	0	11.7	42	0		5.01	0	0	0		0	9.2	12	0	0		0		0	0	12		
Carbonate Pot Diss							0											0				21.8	23
Chromium Dissolved											0			0									
Chromium Total	0	0	0		0	0	0	0	0	0		0.00236	0		0	0	0	0	0	0	0	0	0
Chromium Total Rec					0					0		0.00236				0	0						
Cobalt Dissolved											0												
Copper Dissolved											0			0.0496									
Copper Total	0		0		0	0	0	0	0	0		0	0		0.013	0.578	0.357	0.037	0		0	0	0
Copper Total Rec					0					0		0				0.578	0.357						
Fluoride	7	4.8	5.1	9.88		9.5	10.4	9.08	4.3		4.3	5.1	4.2	4	3.8		6.9	5.6	4	6.2	6	5.2	4.1
Iron Dissolved			0					0			0		0	0					0		0		0
Iron Total	0		0.18		0.922	0	0	0	0.15	0.519		0	0		0	0	0.233	0	0		2.6	0.38	0.14
Iron Total Rec					0.922					0.519		0				0	0.233						
Lead Dissolved											0			0									
Lead Total	0.00061		0		0.00106	0	0	0	0	0		0	0		0	0	0.00149	0	0		0	0	0
Lead Total Rec					0.00106					0		0				0	0.00149						
Magnesium Dissolved			0	0.04				0			0		0.63	0					0		0		0
Magnesium Total	0					0	0		0			0.114			0		0.325	0.16				0	
Magnesium Total Rec												0.114					0.325						
Manganese Dissolved			0					0			0		0	0					0		0		0
Manganese Total	0		0		0.0213	0	0	0	0.012	0.0131		0	0		0	0	0.0214	0	0		0.041	0	0
Manganese Total Rec					0.0213					0.0131		0				0	0.0214						
Mercury Total		0	0		0	0	0	0		0		0	0			0	0	0	0	0	0	0	0
Molybdenum Dissolved											0												
Molybdenum Total			0		0.00668	0	0.0059	0	0	0		0	0		0.0014	0	0	0	0		0	0	0
Molybdenum Total Rec					0.00668					0		0				0	0						
Nickel Dissolved											0												
Nickel Total		0	0		0	0	0	0		0		0	0		0	0	0	0	0	0	0	0	0
Nickel Total Rec					0					0		0				0	0						

Table 3 (Cont.)
Domestic Well Water Quality For Selected Wells Inside the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Smith, WW			Coleman, V WW					Derowitsch, D WW					Hopke, B WW						Houghtling, J WW		Masters, T WW*	
mg/L except pH	7/9/2007	7/20/2010	10/13/2010	6/20/2007	11/10/2007	12/4/2008	5/9/2009	10/20/2010	9/18/2007	11/12/2007	12/8/2008	1/15/2009	10/12/2010	9/17/2007	10/17/2007	11/11/2007	12/29/2008	6/22/2009	10/12/2010	7/21/2010	10/14/2010	6/29/2009	10/11/2010
pH	8.53	8.87	8.87			8.82	8.75	8.62	8.36		8.53	9	8.57	6.8	8.33		8.04	8.45	8.48	8.97	8.92	9.19	9.29
Potassium Dissolved			0	0.4							1.1		0	0					0		0		0
Potassium Total	0					0.31	0.36		1.1			0.539			2.1			0.71				0.39	
Potassium Total Rec												0.539					6.56						
Selenium Dissolved											0			0									
Selenium Total	0	0	0		0	0.002	0	0	0	0		0	0		0	0	0	0	0	0.00098	0	0	0
Selenium Total Rec					0					0		0				0	0						
Silver Dissolved											0			0									
Silver Total	0		0		0	0	0	0	0	0		0	0		0	0	0	0	0		0	0	0
Silver Total Rec					0					0		0				0	0						
Sodium Dissolved			120	113	132			150			150		150	123					150		140		110
Sodium Total	110	116	120		132	110	110		150	195		168			120	156	153	140		279		120	
Sodium Total Rec					132					195		168				156	153						
Strontium Dissolved											0.11												
Strontium Total			0.12		0	0	0	0.13		0.129		0.116	0.12			0.284	0.309	0.19	0.2		0.18	0.11	0.051
Strontium Total Rec					0					0.129		0.116				0.284	0.309						
Sulfate	140	110	110	32.7		25.7	48.6	193	110		79	65.5	49	138	140		128	99.4	120	125	150	122	67
Thallium Dissolved											0												
Thallium Total		0	0		0	0	0		0	0		0	0		0	0	0	0	0	0	0	0	0
Thallium Total Rec					0					0		0				0	0						
Total Alkalinity As CaCO3	83	109	110			159	148	60	190		210	215	210	155	130		146	138	140	81.8	93	100	130
Total Alkalinity Pot Diss							148											138					
Total Dissolved Solids	390	360	370			273	322	390	530		440	431	380	445	400		414	384	400	356	0	342	250
Total Suspended Solids		10.5	10			0	0	0				0	0				0	0	0	0	52	7.5	0
Zinc Dissolved											0												
Zinc Total			0		0.0123	0	0	0		0.0102		0	0		0	0.0387	0	0.018	0.12		0.031	0	0
Zinc Total Rec					0.0123					0.0102		0				0.0387	0						

* Sample collected in 2010 is from Recovery 5 Masters well formerly the Masters water well
Inidcates value was used from Total or Total Recoverable for comparison purposes
Indicates value exceeds primary water quality regulatory value
Inidcates values exceeds secondary water quality regulatory value

Table 4 (Revised)
Domestic Well Water Quality For Selected Wells Within One Mile of the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Burge, K WW			Kerman, T WW					McPherson, P WW			Goodwin, R WW			Wolahan, WW		
mg/L except pH	12/18/2008	6/9/2009	11/11/2010	9/18/2007	12/4/2008	7/8/2009	11/11/2010	RPD 1	12/4/2008	6/3/2009	11/17/2010	12/15/2008	6/29/2009	11/16/2010	12/4/2008	6/4/2009	11/16/2010
Antimony Dissolved	0																
Antimony Total	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
Antimony Total Rec	0																
Arsenic Dissolved	0																
Arsenic Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Arsenic Total Rec	0																
Barium Dissolved	0																
Barium Total	0.019	0.021	0.02	0	0.031	0.035	0.036	**200**	0.034	0.029	0.039	0.04	0.042	0.04	0.015	0.016	0.015
Barium Total Rec	0.019																
Beryllium Dissolved	0																
Beryllium Total	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
Beryllium Total Rec	0																
Bicarbonate As CaCO3	210		220	130	148		130		72.2		73	217	213	220	59.3	58.4	50
Bicarbonate Pot Diss		206				143				73			213				
Boron Dissolved	0																
Boron Total	0	0	0.032	0	0	0	0		0	0	0	0	0	0	0	0	0
Boron Total Rec	0																
Cadmium Dissolved	0																
Cadmium Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Cadmium Total Rec	0																
Calcium Dissolved	74		90				3.3				51			15			5.9
Calcium Total	0	0		2.8	2.9	3.5	3.3	**22**	23	0	51	14	15	15	5.5	6.7	5.9
Calcium Total Rec	0																
Carbonate As CaCO3	0		0	23	7.21		17		0		0	0		5.2	0	0	5
Carbonate Pot Diss		0				7.51				0			0				
Chromium Dissolved	0																
Chromium Total	0	0	0	0	0	0	0		0	0	0	0.0049	0	0	0	0	0
Chromium Total Rec	0																
Cobalt Dissolved	0																
Copper Dissolved	0																
Copper Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Copper Total Rec	0																
Fluoride	0.59	0.81	0.58	3.5	4.9	4.9	3.9	**33**	6	5.9	3.7	1.7	1.5	0.94	8.2	10.1	6.1
Iron Dissolved	0		0				0				0			0			0
Iron Total	0.568	0.79	0.52	0	0	0	0		0	0	0	0	0	0	0	0	0
Iron Total Rec	0.568																
Lead Dissolved	0.00013																
Lead Total	0.00258	0.0031	0.0046	0	0	0	0		0	0	0	0	0	0	0	0	0
Lead Total Rec	0.00258																
Magnesium Dissolved	15		18				0				0.53			1.3			0
Magnesium Total	14.3	14		0	0	0	0		0.15	0.18	0.53	1.4	1.3	1.3	0	0	
Magnesium Total Rec	14.3																
Manganese Dissolved	0.083		0.078				0		0	0	0			0.021			0
Manganese Total	0.0966	0.072	0.084	0	0	0	0		0	0	0	0.033	0.041	0.022	0	0	0
Manganese Total Rec	0.0966																
Mercury Total	0	0	0		0	0	0		0.006	0.0053	0	0	0	0	0	0	0

Table 4 (Revised, Cont.)
Domestic Well Water Quality For Selected Wells Within One Mile of the Remediation Ring
Before and After the Initiation of Phase 2

Constituent	Burge, K WW			Kerman, T WW					McPherson, P WW			Goodwin, R WW			Wolahan, WW		
mg/L except pH	12/18/2008	6/9/2009	11/11/2010	9/18/2007	12/4/2008	7/8/2009	11/11/2010	RPD 1	12/4/2008	6/3/2009	11/17/2010	12/15/2008	6/29/2009	11/16/2010	12/4/2008	6/4/2009	11/16/2010
Molybdenum Dissolved	0.0018																
Molybdenum Total	0	0	0	0	0.006	0.0065	0	**200**	0	0	0	0	0	0	0.024	0.021	0.021
Molybdenum Total Rec	0																
Nickel Dissolved	0																
Nickel Total	0	0	0		0	0	0		0	0		0	0	0	0	0.014	0
Nickel Total Rec	0																
pH	7.82		7.68	8.84	8.91	8.91	8.97	1	8.29	8.16	8.01	8.12	8.09	8.27	8.93	8.96	8.99
Potassium Dissolved	1.7		0				0							3.4			0
Potassium Total	0.796	0.75		0	3.7	2.5		**200**	0.49	0.49	0	3.4	2	3.4	0.24	0.22	
Potassium Total Rec	0.796																
Selenium Dissolved	0																
Selenium Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Selenium Total Rec	0																
Silver Dissolved	0																
Silver Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Silver Total Rec	0																
Sodium Dissolved	110		120				150				180			180			140
Sodium Total	108	120		120	150	150	150	**22**	140	140	180	210	200	180	130	120	140
Sodium Total Rec	108																
Strontium Dissolved	1.8																
Strontium Total	1.77	1.7	2.1		0.11	0.11	0.1		0.51	0.46	1	0.6	0.62	0.61	0.14	0.13	0.14
Strontium Total Rec	1.77																
Sulfate	240	236	260	130	151	152	150	16	230	226	390	206	208	190	193	185	190
Thallium Dissolved	0																
Thallium Total	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
Thallium Total Rec	0																
Total Alkalinity As CaCO3	210		220	150	155		150		72.2		73	217		220	59.3	59.4	55
Total Alkalinity Pot Diss		206				150				73			213			59.4	
Total Dissolved Solids	640	640	660	420	416	440	410	5	486	490	670	582	568	540	405	412	380
Total Sulfide	0.5	1.5			0	0			0	0		0.5	0		0	0	
Total Suspended Solids	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0
Zinc Dissolved	0.025																
Zinc Total	0	0	0		0.034	0.025	0		0	0	0	0.039	0.017	0	0	0	0
Zinc Total Rec	0																

Inidcates value was used from Total or Total Recoverable for comparison purposes
Indicates value exceeds primary water quality regulatory value
Inidcates values exceeds secondary water quality regulatory value

Table 5: Sampling of Dissolved Gases in Water Wells (results received from December 2010 sampling)					
	Well	**Sample Date**	**Analyte**	**Results (In ug/l)**	**Comments**
Phase 2 Mitigation Wells	Rohr 04-10	12/2/10	Ethane	3.1	Phase II ,CBM water to RO
	Rohr 04-10	12/2/10	Ethylene	ND	Phase II ,CBM water to RO
	Rohr 04-10	12/2/10	Methane	23,000	Phase II ,CBM water to RO
	Injection 05 Rohr	12/2/10	Ethane	ND	RO treated Injection Water
	Injection 05 Rohr	12/2/10	Ethylene	ND	RO treated Injection Water
	Injection 05 Rohr	12/2/10	Methane	400	RO treated Injection Water
	Recovery 1 Kittleson	12/2/10	Ethane	7.3	Phase II water to RO
	Recovery 1 Kittleson	12/2/10	Ethylene	ND	Phase II water to RO
	Recovery 1 Kittleson	12/2/10	Methane	11,000	Phase II water to RO
	Recovery 5 Masters	12/2/10	Ethane	6.1	Grabbed during Phase II
	Recovery 5 Masters	12/2/10	Ethylene	ND	Grabbed during Phase II
	Recovery 5 Masters	12/2/10	Methane	17,000	Grabbed during Phase II

ND = Not Detected

Table 6
Water Well Measurements for the December 2010 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
Wells Within Approximately One Mile of Pumping and Injection System or of Special Interest						
238689	Angely	7/5/07	1/4/11	1/4/11	Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 4/9/08, then began dropping and reached approximately 0 by 5/28/08. Have remained at or near 0 except for jump in December 2008, March 2009 and November 2009 readings.	No change from previous measurements with 0 % LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm
257994	Barrett	7/12/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Methane detected at levels >100 % LEL and above 10% CH4 by volume. Levels have dropped since March 2009 but remain above 0 except for an occasional 0 reading. Occasionally (October 6, 2009 and March 16, 2010) higher levels of methane are observed.	• % LEL increased 57 to 100 • CH4% volume increased 2.85 to 5.00 with a high of 98 noted on 12/30/10 • O2% decreased from 20.7 to 20.4 with a low of 14.2 noted on 12/20/10 • CO and H2S remained unchanged at 0 ppm
244403	Bergman	7/6/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	The methane has been variable with higher and lower values until 11/28/07 and then mostly levels at >100 %LEL and greater than 10% CH4 by volume until September 2009 when levels began to show wider variances in %LEL and CH4 of between >100 and 13.00 and as low as 0 in February 2010.	• % LEL remained unchanged at >100 • CH4% volume increased from 12 to 27 with a high of 30 noted on 12/20/10 • O2% increased from 17 to 18.5 with a high of 20.3 noted on 12/9/10 • CO and H2S remained unchanged at 0 ppm with a CO high of 3 on 12/30/10
181278	Bounds	7/12/07	1/4/11	1/4/11	Readings from this wellhead have been consistently at or above 100 %LEL with levels of CH4% by volume near 100. This wellhead has also shown fairly consistent low levels of H2S until 6/25/08 when H2S readings became more variable with less H2S present in general.	• % LEL remained unchanged at 100 • CH4% volume increased from 21 to 75 • O2% decreased from 13.1 to 3.4 • CO remained unchanged at 0 • H2S remained unchanged at 0 ppm
169043	Burge	3/20/09	1/10/11	12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Methane detected at levels >100 % LEL and above 10% CH4 by volume until approximately 1/17/08, then began dropping through 3/14/08 and have remained at or near 0 since that time except for a single high reading on 7/2/08 and detectable methane on 10/1 and 10/6/09.	• % LEL remained unchanged at 0 • CH4% volume remained unchanged at 0 • O2% volume decreased from 20.9 to 16.7 in the last reading • CO and H2S remained unchanged at 0 ppm
267694	Coleman	7/5/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Methane detected at wellhead at levels >100 % LEL and above 5% CH4 by volume until approximately 8/15/07, then began dropping with no methane detected since 10/30/07. Well vent has shown more variable and generally higher readings than the wellhead.	At the wellhead no change from previous measurements with 0% LEL, no detectable methane; O2% volume at 20.9 and CO and H2S at 0 ppm. At the well vent: • % LEL decreased from 18 to 7 with a low of 0 noted on several occasions • CH4% volume decreased from 0.90 to 0.35 with a low of 0 noted on several occasions • O2% increased slightly from 20.8 to 20.9 with a low of 0 noted on several occasions • CO and H2S remained unchanged at 0 ppm
235516	Colorado Switzer	7/12/07	1/10/1	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

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Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
255929	Conley	7/11/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
260097	Dee	7/5/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead. A potentially erroneous reading of 5%LEL occurred on 7/30/09 with no detectable methane.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
252931	Derowitsch	7/6/07	1/10/11	12/9/10, 12/13/10, 12/15/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Methane detected at wellhead at levels approximately 100 % LEL and mostly above 5% CH4 by volume until approximately 9/4/07, then methane levels dropped to 0 and have remained at or near 0 since that time. Both the well vent and cistern have historically shown very low to 0 levels of methane. Late September to December 2009 readings at the well vent indicated levels of methane although the wellhead and cistern showed no detectable methane during that time period.	At the wellhead and well vent no change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm. At the cistern: • % LEL remained unchanged at 0 with a high of 100 noted on 12/30/10 • CH4% volume remained unchanged at 0 with a high of 4 noted on 12/30/10 • O2% remained unchanged at 20.9 with a low of 17.9 noted on 1/7/11 • CO increased from 0 to 5.5 • H2S remained unchanged at 0 ppm with a high of 3 noted on several occasions
235515	English	8/16/07	1/10/11	12/9/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from previous measurements at the wellhead with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm for most of the period. A high reading was observed at the wellhead on 12/30/10 with %LEL at 100, CH4% at 3; and O2% at 20.4. The cistern was not measured during the reporting period. There were no readings on 12/13/10 or 12/16/10 due to a locked gate which did not allow access.
16861-F	Golden Cycle Land	7/12/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Readings initially showed methane at 100% LEL and greater than 20% by volume CH4, but dropped to 0 by 9/24/07 and remained at 0 (with two readings above 0 on 11/16/07 and 4/23/08) until 10/20/08. Starting 10/20/08 methane was once again detected at higher values along with CO at high levels and showings of H2S.	• %LEL remained unchanged at >100 • CH4% volume decreased from 66 to 31 • O2% increased from 0 to 4.2 • CO decreased from 125 to 92 with a high of 199 noted on several occasions • H2S decreased from 5.5 to 4 with a high of 20.9 on 12/9/10
253317	Gonzalez	7/12/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from previous measurements at the wellhead with 0% LEL, no detectable methane, O2% at 20.9 and no CO or H2S.
256504	Hopke	7/5/07	1/10/11	12/9/10, 12/13/10, 12/15/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Readings consistently measure methane at >100% LEL and at values of CH4% by volume fairly consistently above 20 until late 2009 when levels dropped to between 10 and 20. The well has shown an overall slow decline in CH4 % by volume over time. H2S also has shown a decline over time such that most recent readings have been at or slightly above 0. No methane has ever been detected at the cistern.	At the wellhead: • % LEL remained unchanged at >100 with a low of 71 on 12/15/10 • CH4% volume increased from 16 to 27 • O2% volume decreased from 16 to 14.9 with a high of 18.9 noted on 12/15/10 • CO remained unchanged at 0 ppm, H2S remained at 0 with Light Odors noted on several occasions At the cistern: no changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.

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236272	Houghtling	7/6/07	1/10/11	12/9/10, 12/13/10, 12/15/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Methane levels at this wellhead have been consistently >100% LEL with CH4% by volume fairly consistently above 20 with an occasional lower values (but not 0). No methane has ever been detected at the cistern.	At the wellhead: • % LEL remained unchanged at >100 • CH4% remained unchanged at 100 • O2% volume remained unchanged at 0 with a high 18.3 on 1/7/11 • CO and H2S remained unchanged at 0 At the cistern: no changes from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
35292	Kerman/Hanson	7/6/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Values at this wellhead have been at or near 0 with two readings of >100% LEL and greater than 5% by volume CH4 on 12/2/08 and 12/22/08 and detectable methane readings in July, August and December 2009. No methane has ever been detected at the cistern.	No change from at the wellhead or cistern with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
	Lively 10-02	12/22/2008	1/10/11	12/17/10	Readings from this well started with mostly 0 to low levels of methane but have been moving upward with late 2009 readings showing detectable levels more consistently with some readings as high as >100 % LEL. CH4% volume remains below 5%. Some non detectable readings still also occur with early 2010 showing lower overall readings and many non detect readings.	At the wellhead: • % LEL decreased from 15 to 0 • CH4% decreased from 0.75 to 0 • O2% increased from 20.7 to 20.9 • CO decreased from 500 to 0 • H2S decreased from 10.5 to 0
222539	Lively	7/6/07	1/10/11	12/9/10, 12/13/10, 12/17/20, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2. H2S increased from 0 to 3.
16861-F	Masters #1	8/13/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm.
271136	May	7/12/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2. H2S increased from 0 to 1.5.
84108-A	McPherson	7/6/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
84106	Rohr	7/06/07	1/10/11	12/9/10, 12/13/10, 12/16/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.

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123144	Searle	7/11/07	1/10/11	12/9/10, 12/13/10, 12/17/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
239657	Smith	7/5/07	1/10/11	12/9/10, 12/13/10, 12/15/10, 12/20/10, 12/22/10, 12/28/10, 12/30/10, 1/4/11, 1/7/11, 1/10/11	Detectable methane in early readings with % LEL at 100 or greater and % by volume of CH4 at up to 100. Began showing some variability in readings on 9/9/07 eventually decreasing until levels at 0 beginning 5/5/08. Three readings since that time on 5/21/08, 10/27/08 and 7/13/09 have shown >100% LEL and CH4 % by volume at or above 5. October 2009 reading showed low levels (18% LEL and 0.9% CH4 by volume).	At the well head and cistern no change from previous measurements with 0% LEL, no detectable methane, O2% volume at 20.9 and CO and H2S at 0 ppm for most of the monitoring period. On 1/4/11 the wellhead showed a high reading of >100 %LEL, 17% CH4 by volume and O2% of 15.5. At the well vent: • % LEL remained unchanged at >100 with no detectable methane observed on 1/4/11 and 1/7/11 • CH4% volume increased from 12 to 31 with no detectable methane observed on 1/4/11 and 1/7/11 • O2% volume decreased from 16 to 13.5 with high readings of 20.9 on 1/4/11 and 1/7/11. CO and H2S remained unchanged at 0 ppm
	BLM 15-12	6/1/09	12/16/10	12/16/10	Detectable methane with >100% LEL and CH4 % volume of greater than 70 and limited O2% volume.	• % LEL remained unchanged at >100 • CH4% volume decreased from 95 to 74 • O2% volume increased from 0 to 4.5 • CO remained unchanged at 0 ppm • H2S decreased from 3 to 0
Wells Within or in Close Proximity to River Ridge Ranch Subdivision						
249362	Andexler	9/9/07	12/16/10	12/16/10	Several readings (3/25/09, 7/30/09 and October 2009) have shown less the 0.25% CH4 methane, otherwise no detectable methane.	No change from last measurement with 0% LEL, no detectable methane, O2% at 20.9 and no CO2 or H2S.
215706	Brice	7/12/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
248680	Campbell	8/14/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
20783	Goemmer Cattle	7/12/07	12/8/10	None	No methane has ever been detected at this wellhead.	No measurements taken during this reporting period
258815	Goodwin	7/12/07	12/16/10	12/16/10	Readings have shown methane levels at or near 0 with no readings above 0 from late January 2009 through October 2009. November 2009 through February showed 2010 showed low levels of methane.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
249181	Hentschel	9/9/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
259122	Higgins	9/26/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
269435	Hoppe (formerly Goacher)	7/11/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
264581	Ireland	7/12/07	12/16/10	12/16/10	Typically no methane, but methane has been detected on 12/2/08, 12/22/08, and 1/6/09 with 100% or greater LEL and 5% by volume CH4.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
	Lang	10/29/07	7/28/08	None	No methane has ever been detected at this wellhead.	Sampling attempted 12/17/10 but gate was locked.
93386	Lowry	7/12/07	12/8/10	None	No methane has ever been detected at this wellhead.	No measurements taken during this reporting period
250369	Martin	7/12/07	10/22/10	None	No methane has ever been detected at this wellhead.	Sampling attempted 12/16/10 but gate was locked.

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248862	Meyer	8/14/07	12/16/10	12/16/10	Methane levels generally at >100% LEL and CH4 % by volume of greater than 5. Readings were a bit variable with some lower methane levels until 5/22/08 and then became consistently >100% LEL and CH4% by volume greater than 5.	• % LEL remained unchanged at >100 • CH4% volume decreased from 27 to 16 • O2% volume increased from 16.5 to 17.5 • CO and H2S remained unchanged at 0 ppm
192203	Rankins	7/12/07	6/21/10	None	No methane has ever been detected at this wellhead.	No measurements taken during this reporting period.
276994	Rhodes	9/9/08	12/17/10	12/17/10	Slight LEL (5%) reported 7/30/09, but no methane detected. No methane has been detected previously or since at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
274468	Roloff	9/9/07	12/16/10	12/16/10	No methane had ever been detected at this wellhead except for low levels detected in the 8/25/09 measurement.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
254577	Ryerson	9/9/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
246775	Sharp	9/9/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
267695	Speh	9/4/07	12/17/10	12/17/10	No methane has ever been detected at this wellhead.	• % LEL decreased from 5 to 0 • CH4% volume decreased from 0.25 to 0 • O2% volume increased from 20.8 to 20.9 • CO and H2S remained unchanged at 0 ppm
230572	Willis	7/11/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
240947	Wolahan	7/12/07	12/16/10	12/16/10	No detectable methane except 5/21/08, 1/27/09 and 2/9/09 with levels at 5% LEL and 0.25% by volume CH4.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
City Ranch and Other Properties						
	Andreatta/ Carsella	8/14/07	3/17/10	None	No methane has ever been detected at this wellhead.	No measurements taken during this reporting period.
197472	Bartlett	8/15/07	12/3/10	None	No methane has ever been detected at this wellhead.	No measurements taken during this reporting period.
210526	Bruington	8/7/07	12/17/10	12/16/10, 12/17/10	From start of reading to November 2009 wellhead readings have shown consistent levels of methane at >100% LEL and CH4 % by volume at greater than 50. Since November 2009 overall %LEL and CH4% volume have decreased. With no detectable methane in March 16, 2010 reading. Some CO and H2S readings in mid to late 2008 but current readings have shown little to no CO and H2S. No methane has ever been detected at the cistern.	• % LEL decreased from 35 to 5 • CH4% volume decreased from 0.50 to 0.25 • O2% volume increased from 16.5 to 20.8 • CO remained unchanged at 0 ppm • H2S decreased from 1.5 to 0
220100	Cordova	10/30/07	12/17/10	12/16/10, 12/17/10	Initial readings were variable with readings as low as 0 and as high as >100% LEL and greater the 5% CH4 by volume. After 3/14/08 mostly readings at 0 with some readings at levels slightly above 0. Since March 2009 no detectable methane.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.

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191079	Brian Dale	8/15/07	12/17/10	12/17/10	Variability between 0 and >100% LEL and 5% or greater CH4 by volume until 11/14/08 and since that time no methane has been detected.	• % LEL increased from 0 to 6 • CH4% volume increased from 0 to 0.30 • O2% volume decreased from 20.9 to 13.5 • CO and H2S remained unchanged at 0 ppm
193092	Degan	8/25/08	12/17/10	12/17/10	Initial readings were variable between 0 and >100% LEL and 5% by volume CH4. From 2/17/09 to March 2010 there was no detectable methane.	• % LEL decreased from 5 to 0 • CH4% volume decreased from 0.25 to 0 • O2% volume decreased from 20 to 0 • CO remained unchanged at 0 ppm • H2S decreased from 1 to 0
	Dernell	8/15/07	12/17/10	12/16/10, 12/17/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
258651	Gonzalez	5/22/08	12/16/10	12/16/10	Methane readings were >100% LEL and CH4 % by volume mostly above 20. From 4/9/09 to 7/13/09 values were reduced with % LEL below 50 and CH4 % by volume below 3. From 7/30/09 reading to present values are variable with >100 for one or more readings and then reduced to as low as 0 for one or more readings. There has been no detectable methane at the cistern.	• % LEL increased from 5 to >100 • CH4% volume increased 0.25 to 11 • O2% volume decreased from 20.6 to 18.2 • CO and H2S remained unchanged at 0
	Haupt #1	6/1/09	12/17/10	12/17/10	Until December 2009 all readings but one have shown % LEL at >100 with CH4 % by volume at 11 or less. Beginning with December 2009 reading there have been several large variations in readings ranging from >100 to 0 %LEL and 5 to 0 %CH4 by volume.	• % LEL remained unchanged at >100 • CH4% volume decreased from 22 to 9 • O2% volume decreased from 14.4 to 2.97 • CO and H2S remained unchanged at 0 ppm
203536	Hurley	8/2/07	12/16/10	12/16/10	Readings have fairly consistently shown >100% LEL and CH4 % by volume between 10 and 50 with several much lower readings, most recently in July and October 2009 and March 2010. H2S has also been measured, but starting around 9/08 values have been reduced to at or near 0 ppm.	• % LEL remained at >100 • CH4% volume increased from 16 to 40 • O2% volume increased from 20.1 to 20.7 • CO and H2S remained unchanged at 0 ppm
205195	Johnson	8/15/07	12/17/10	12/17/10	Readings have shown mostly low values of methane (% LEL less than 20 and CH4 % by volume less than 1) with 0 values. The number of non detectable methane reading has shown a general increase since late 2008.	• % LEL increased from 5 to 8 • CH4% volume increased from 0.25 to 0.40 • O2% volume decreased from 20.2 to 18.4 • CO rand H2s remained unchanged at 0 ppm
193520X	McEntee	8/2/07	12/17/10	12/17/10	Initially methane was detected at this wellhead at values of >100% LEL and greater than 10% by volume CH4. Starting 1/28/08 values dropped to at or near 0 with only one higher value on 2/17/09 (>100% LEL and 5% By volume CH4). Mostly no detectable methane since that time with two low level detections; one on 4/22/09 and one on 10/20/09.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.

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191345	Pennington	8/7/09	12/17/10	12/17/10	Four readings have occurred at this well; showing detectable methane at levels of >100% LEL and CH4% by volume at 15 or less except for 10/20/09 reading which showed lower methane levels (25% LEL and 1.25% CH4 by volume)..	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
121013	Schafer	8/15/07	12/16/10	12/16/10	No methane has ever been detected at this wellhead	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
248983	Tobyas	8/3/07	12/16/10	12/16/10	Historically this wellhead has shown wide variance between 0 and higher methane values of >100% LEL and greater than 5% by volume CH4 with no discernable long term trends.	• % LEL remained unchanged at >100 • CH4% volume increased from 13 to 21 • O2% volume decreased from 17.5 17.2 • CO and H2S volume remained at 0
Silver Spurs Ranch						
268180	Billstrand	8/12/08	10/20/10	None	No methane has been detected at this wellhead except for low readings on 5/6/09 and 1/10/10.	No measurements taken during this reporting period.
215807	Brown	12/8/08	12/15/10	12/15/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
222294	Cramer	8/3/07	12/15/10	12/15/10	Most methane readings have been at or near 0 with periodic higher readings.	• % LEL increased from 0 to 100 • CH4% volume increased from 0 to 5 • O2% volume decreased from 20.9 to 0 • CO volume increased from 0 to 55 • H2S remained unchanged at 0
192509	Eddleman, Paul	1/17/08	12/15/10	12/15/10	Readings mostly above >100% LEL and 5% by volume CH4 until 9/23/08 and then levels dropped to mostly 0 until 1/26/09. Since 1/26/09 readings have shown wide variability between low to 0 methane and >100% LEL and greater than 5% by volume methane. Since 6/9/09 methane levels have been more consistently higher.	• % LEL remained unchanged at >100 • CH4% volume decreased from 28 to 5 • O2% volume decreased from 16.25 to 0 • CO volume decreased from 10 to 0 • H2S decreased from 0.5 to 0
226536	Eddleman, Todd	1/17/08	12/15/10	12/15/10	Methane readings have been widely variable from 0 to >100% LEL and 5% by volume CH4.	• % LEL decreased from >100 to 0 • CH4% volume decreased from 19 to 0 • O2% volume increased from 9.8 to 20.9 • CO volume remained at 0 • H2S decreased from 3 to 0
221465	Evenden	8/2/07	12/15/10	12/15/10	Methane readings have generally been at or near 0 with no detectable methane since 3/24/09 and one higher reading on 1/12/09 (>100% LEL and 5% by volume methane).	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
	Fischer	1/26/09	12/8/10	None	Only two readings have detected low levels of methane (2/17/09 and 2/18/10), other readings have not detected methane.	No measurements taken during this reporting period.
214145A	Fitzner	11/18/08	12/15/10	12/15/10	Methane levels have been generally at 0 but occasionally shows wide swings to >100 % LEL and 5 % CH4 by volume.	• % LEL increased from 0 to >100 • CH4% volume increased from 0 to 36 • O2% volume decreased from 20.9 to 1.4 • CO volume remained at 0 • H2S increased from 0 to 2

Table 6
Water Well Measurements for the December 2010 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
31935	Garza-Vela	1/30/08	12/15/10	12/15/10	Generally there is 0 to low methane levels except for an occasional low level reading.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
196372	Geiselbrecht	8/12/08	12/15/10	12/15/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
246350	Gumpert	7/29/08	12/15/10	12/15/10	Methane readings have been widely variable with most readings either 0 or >100% LEL and 5% by volume CH4.	• % LEL increased from0 to 100 • CH4% volume increased from 0 to 5 • O2% volume decreased from 20.9 to 16.4 • CO and H2S volume remained at 0
196371	Lyon	8/15/07	12/15/10	12/15/10	Between 2007 and mid-2009 most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 5/22/08 and 4/22/09. Beginning in June of 2009 methane has been more regularly detected.	• % LEL remained unchanged at >100 • CH4% volume decreased from 13 to 5 • O2% volume decreased from 6.4 to 0 • CO remained unchanged at 0 • H2S reported a light odor
271524-A	Modlish	1/30/08	12/15/10	12/15/10	Most methane readings have been at or near 0 with higher values of >100% LEL and 5% by volume CH4 on 10/21/08 and 5/20/09.	No change from last measurement with 0% LEL, no detectable methane, and no CO2 or H2S. O2% volume increased from 14.8 to 18.2.
28093MH	Morine	9/10/08	12/15/10	12/15/10	Only on reading above 0 has been detected at this wellhead. This reading occurred 1/12/09 and showed 5% LEL and 0.25% by volume CH4.	• % LEL remained unchanged at 0 • CH4% volume remained unchanged at 0 • O2% volume increased from 16.4 to 20.9 • CO volume remained at 0 • H2S decreased from 1.5 to 0
35227MH	Morris	10/8/08	12/15/10	12/15/10	Methane readings swing widely between 0 and 100 % LEL and 0.00 and 5.00 % CH$ by volume.	• % LEL increased from 0 to >100 • CH4% volume increased from 0 to 5 • O2% volume decreased from 20.9 to 0 • CO volume increased from 0 to 86 • H2S increased from 0 to 11
190327	Palmer	8/12/08	12/15/10	12/15/10	No methane was ever been detected at this wellhead until low levels were detected in 10/19/09 and 11/6/09 readings and again on 1/19/2010.	No change from last measurement with 0% LEL, no detectable methane, and no CO2 or H2S. O2% volume decreased from 20.9 to 20.
197128	Roberts	4/08/08	12/8/10	None	Methane readings have historically been widely variable from 0 to >100% LEL and 5% by volume CH4.	Measurement attempted on 12/15/10 however the gate was locked.
271748	Sample	3/10/08	12/15/10	12/15/10	Until July 2009 most of the readings from this wellhead have been no or low levels of detectable methane with higher readings on 5/22/08, 6/3/08, and 5/20/09. More consistent methane readings have occurred beginning in July 2009.	• % LEL increased from 0 to >100 • CH4% volume increased from 0 to 6 • O2% volume decreased from 20.9 to 17.5 • CO and H2S remained unchanged at 0 ppm
192144	Snow	8/2/07	12/15/10	12/15/10	No measurable methane until 10/4/07, then widely variable levels ranging from 0 to >100% LEL and 5% by volume CH4 with no discernable trends.	• % LEL remained unchanged at 100 • CH4% volume remained unchanged at 5 • O2% volume decreased from 14.5 to 0 • CO remained unchanged at 0 ppm • H2S reported a light odor

Table 6
Water Well Measurements for the December 2010 Monthly Report

Permit Number	Name	Sampling Start Date	Last Sample	Samples Since Last Monthly Report	History (Last Updated with May 2010 Monthly Report)	If sampled, comparison of results from this period to last period
213070	Stephens	8/12/08	12/15/10	12/15/10	No methane had ever been detected at this wellhead except for low levels detected on 10/19/09.	No change from last measurement with 0% LEL, no detectable methane, and no CO2 or H2S. O2% volume decreased from 20.9 to 19.
261753	Wahl	8/5/09	12/15/10	12/15/10	No methane has ever been detected at this wellhead.	• % LEL remained unchanged at 0 • CH4% volume remained unchanged at 0 • O2% volume decreased from 20.9 to 20.3 • CO and H2S remained unchanged at 0 ppm
234839	Waltz	8/12/08	12/15/10	12/15/10	No methane has ever been detected at this wellhead.	No change from last measurement with 0% LEL, no detectable methane, and no CO2 or H2S. O2% volume decreased from 20.9 to 20.6.
234836	White, Jim	1/4/08	12/15/10	12/15/10	Methane levels have been widely variable between no detectable methane and methane levels at >100% LEL and 5% by volume CH4 with no discernable trends. No methane has ever been detected at the cistern.	• % LEL increased from 0 to 100 • CH4% volume increased from 0 to 5 • O2% volume decreased from 20.9 to 0 • CO remained unchanged at 0 ppm • H2S reported a light odor
219376	White, Orlie	8/2/07	12/15/10	12/15/10	Methane values historically at low to 0 with higher values on 5/22/08 and from 9/10/08 to 10/29/08. Four detectable methane readings in 2009; on 3/26, 9/29, 10/19 and 12/17. In 2010 detectable methane appears to be increasing.	• % LEL remained unchanged at >100 • CH4% remained unchanged at 7 • O2% volume increased from 3.3 to 4.1 • CO remained unchanged at 0 ppm • H2S decreased from 2 to 0
Black Hawk Ranch						
218719	Goza	1/14/09	12/15/10	12/15/10	No methane has ever been detected at this wellhead except for 1/19/10 and 3/1710 readings.	• % LEL increased from 0 to 6 • CH4% volume increased from 0 to 0.30 • O2% volume decreased from 20.9 to 15.5 • CO and H2S remained unchanged at 0 ppm
206745	Harbecke	6/11/10	12/15/10	12/15/10		No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.
235757	Klein, Phyllis	10/14/10	12/17/10	12/17/10		No change from last measurement with 0% LEL, no detectable methane,O2% at 20.9 and no CO2 or H2S.

Table 7 Methane Readings Schedule (9 August 2010)							
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Bi-Monthly**	**Monthly**	**Quarterly**	**Bi-Weekly**
Monitoring Within 1 Mile Radius or of Special Interest							
Kathy Dee	River Ridge						X
R. Gonzalez	River Ridge						X
McPherson	River Ridge						X
Rohr	River Ridge						X
Houghtling	River Ridge		X				X
Kent Smith	River Ridge		X				X
Bergman	River Ridge						X
Lively	River Ridge						X
Kerman	River Ridge		X				X
Conley	River Ridge						X
Searle	River Ridge						X
Derowitsch	River Ridge		X				X
Colorado-Switzer	River Ridge						X
English	River Ridge		X				X
Golden Cycle Land (Goemmer)	River Ridge						X
Burge	La Veta Pines						X
Barrett	River Ridge						X
Hopke	River Ridge		X				X
Masters #1	River Ridge						X
Coleman	River Ridge						X
BLM 15-12	La Veta Pines				X		
Lively 10-02	River Ridge			X			

Table 7 Methane Readings Schedule (9 August 2010)							
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Bi-Monthly**	**Monthly**	**Quarterly**	**Bi-Weekly**
River Ridge Ranch							
Wolahan	River Ridge		X		X		
Martin	River Ridge				X		
Speh	River Ridge				X		
Lang	River Ridge		X			X	
Roloff	River Ridge	X			X		
Hoppe (Goacher)	River Ridge				X		
May	River Ridge						X
Brice	River Ridge				X		
Goodwin	River Ridge		X		X		
Ireland	River Ridge				X		
Andexler	River Ridge		X		X		
Sharp	River Ridge		X		X		
Ryerson	River Ridge	X			X		
Meyers	River Ridge			X			
Hentschel	River Ridge				X		
Rankins	River Ridge					X	
Lowry	River Ridge					X	
Goemmer Cattle	River Ridge					X	
Higgins	River Ridge	X			X		
Campbell	River Ridge				X		
Rhodes	River Ridge				X		
City Ranch							
T. Gonzalez	City Ranch	X	X	X			
Hurley	City Ranch	X	X		X		
Tobyas	City Ranch			X			

Table 7 Methane Readings Schedule (9 August 2010)							
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Bi-Monthly**	**Monthly**	**Quarterly**	**Bi-Weekly**
Dale	City Ranch				X		
McEntee	City Ranch				X		
Johnson	City Ranch		X		X		
Cordova	City Ranch			X			
Dernell	City Ranch				X		
Schaefer	City Ranch					X	
Bruington	City Ranch		X	X			
Bartlett	City Ranch					X	
Pennington – Birkman	City Ranch				X		
HAUPT #1	City Ranch				X		
Deagan	City Ranch					X	
Bear Creek/Silver Spurs							
Andreatta/Carsella	Bear Creek				X		
Orlie White	Silver Spurs	X			X		
Evenden	Silver Spurs				X		
Roberts	Silver Spurs				X		
Snow	Silver Spurs	X			X		
Cramer	Silver Spurs	X	X		X		
Lyon	Silver Spurs				X		
Jim White	Silver Spurs		X		X		
Garza-Vela	Silver Spurs				X		
Modlish	Silver Spurs				X		
Todd Eddleman	Silver Spurs				X		
Paul Eddleman	Silver Spurs				X		
Sample	Silver Spurs		X		X		
Billstrand	Silver Spurs				X		

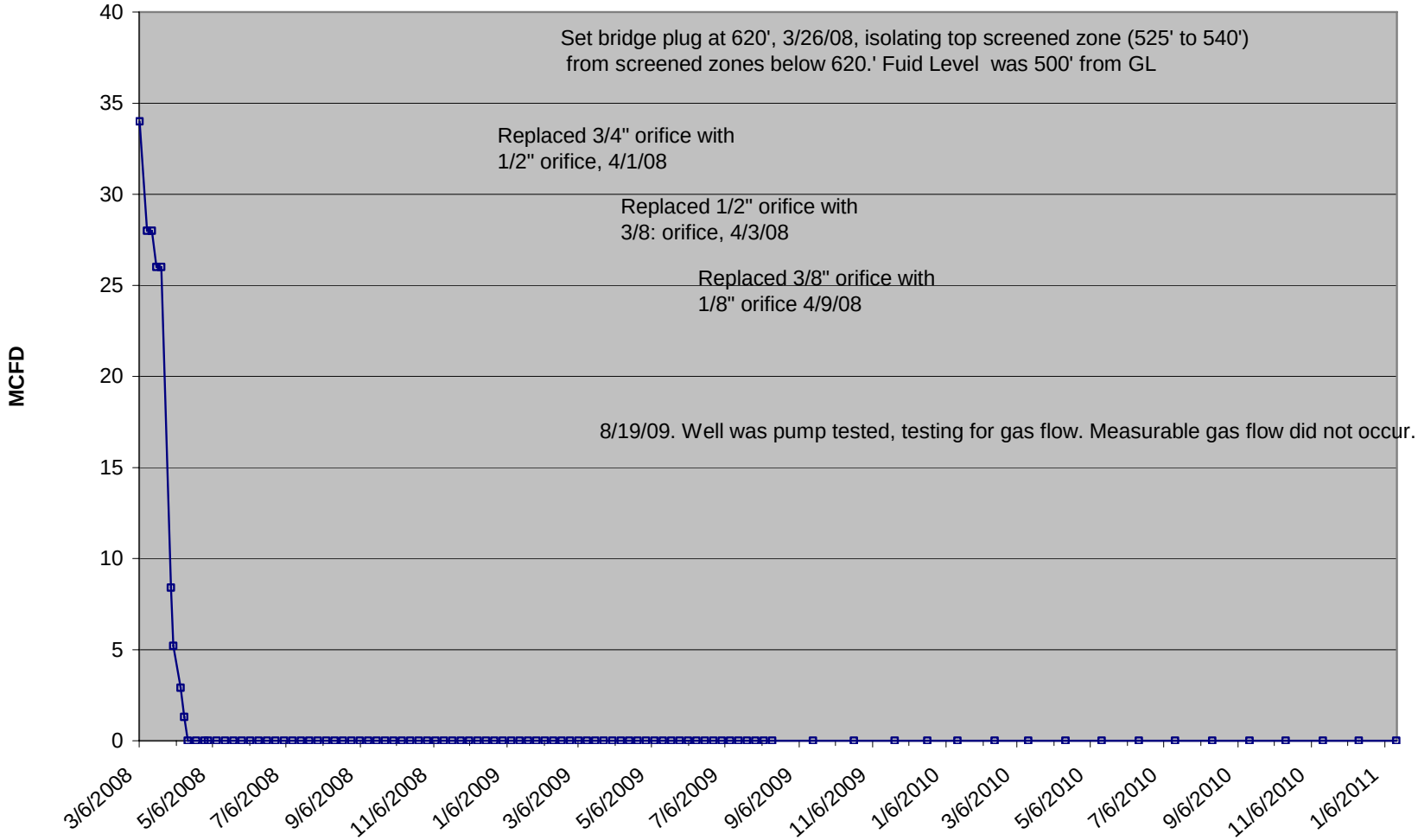
Table 7 Methane Readings Schedule (9 August 2010)							
Landowner	**Subdivision**	**Water Level**	**Cistern**	**Bi-Monthly**	**Monthly**	**Quarterly**	**Bi-Weekly**
Waltz	Silver Spurs				X		
Stephens	Silver Spurs				X		
Palmer (G/S)	Silver Spurs				X		
Geoselbrecht	Silver Spurs				X		
Morine	Silver Spurs				X		
Morris	Silver Spurs					X	
Brown	Silver Spurs	X			X		
Fitzner	Silver Spurs				X		
Fischer	Silver Spurs					X	
Wahl	Silver Spurs				X		
Black Hawk Ranch							
Goza	Black Hawk				X		

Rohr will be checked Quarterly with Rankin, Lowry, and Goemmer Cattle.
John Fischer location is a mine vent. If possible vent will be monitored with RMLD quarterly.

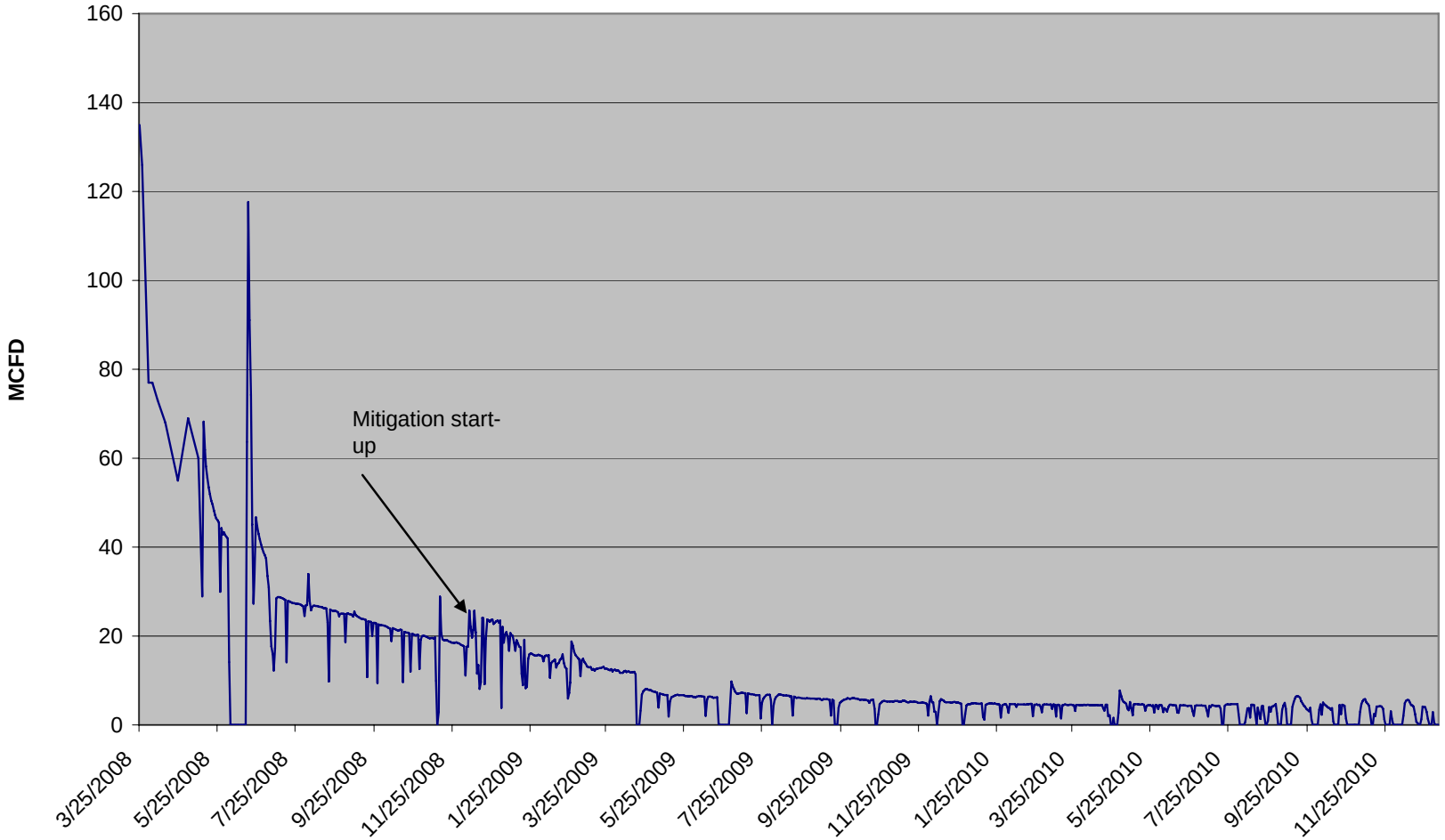
Table 8 Residences Receiving Water	
Jerry Angely	Has received water provided by PEI
Kent Smith	Has received water provided by PEI
Alan Cramer	Has received water provided by PEI
Tom Gonzales	Has received water provided by PEI
Spencer/Carol Snow	Has received water provided by PEI
Bruington	Has received water provided by PEI
Todd Eddleman	Has received water provided by PEI
Paul Eddleman	Has received water provided by PEI
Jim White	Has received water provided by PEI
Edward Lyon	Has received water provided by PEI
Donald Sharp	Has received water provided by PEI
Edward Johnson	Has received water provided by PEI
Richard McEntee	Has received water provided by PEI
P.C. Roberts	Has received water provided by PEI
Ireland-Murphy	Has received water provided by PEI
Keith Lightcap	Has received water provided by PEI
Bounds	To date has not received water provided by PEI
Houghtling	Added to the list in January 2010
Betty and Katherine Morris	Added to the list in September 2010

Attachment 1
Gas Flow in Monitoring Well POCI 55, Recovery 1 Kittleson,
Recovery 3 PEI and Recovery 4 Barrett

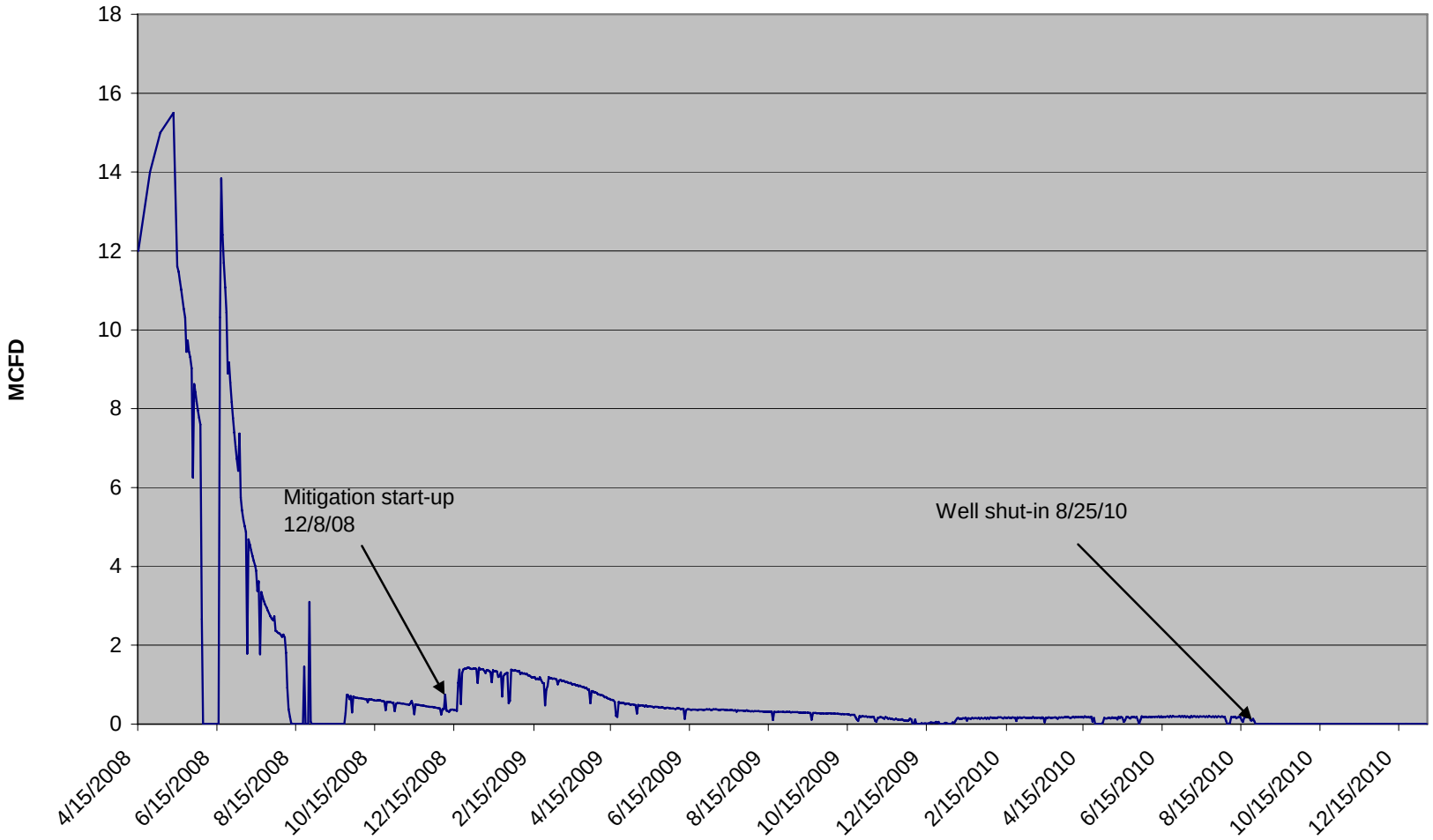
POCI 55 MW Gas Flow from 3/6/08 to 1/15/11



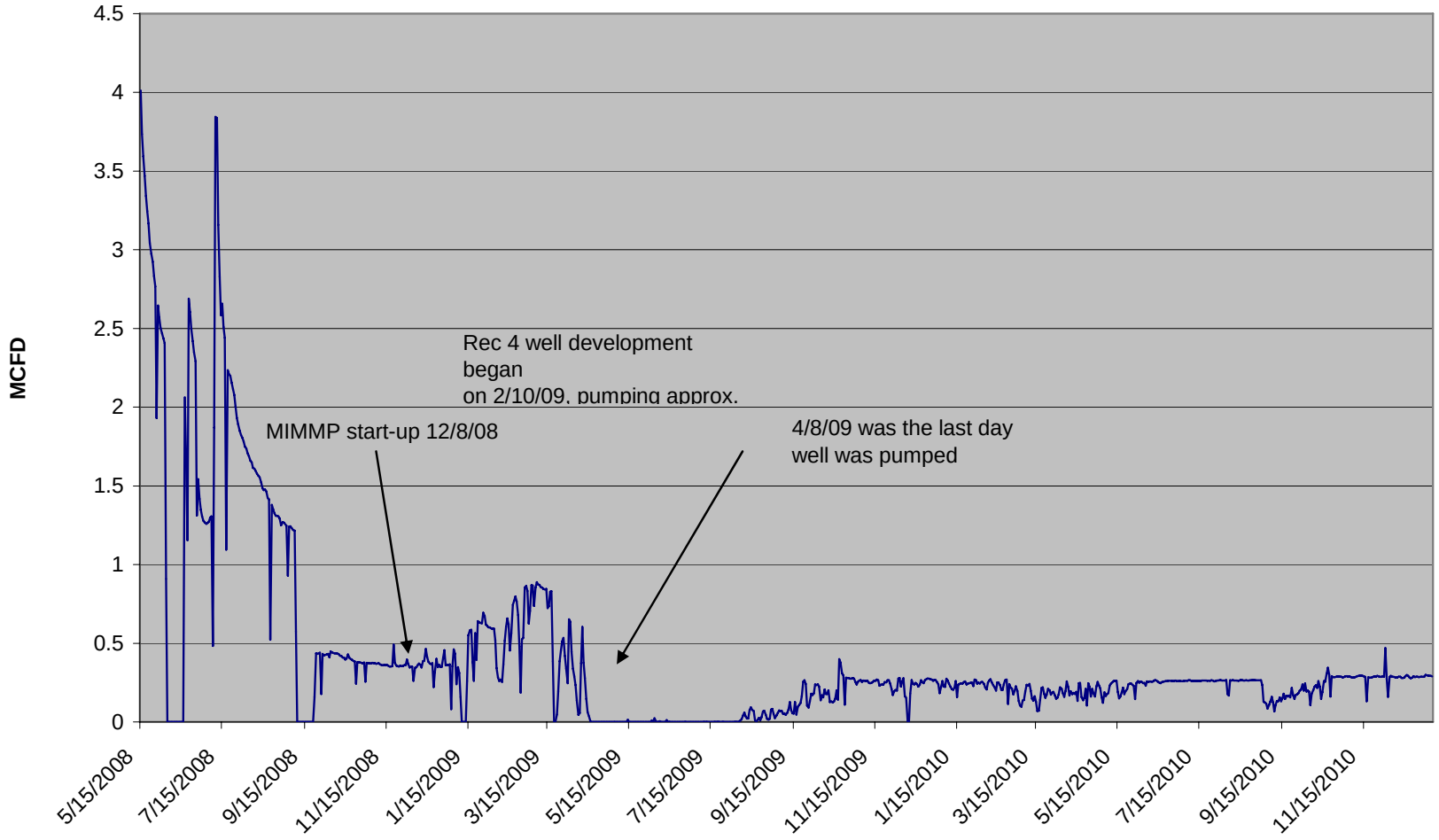
**Recovery 1 Kittleson Gas Flow
from 3/25/08 to 1/5/11**



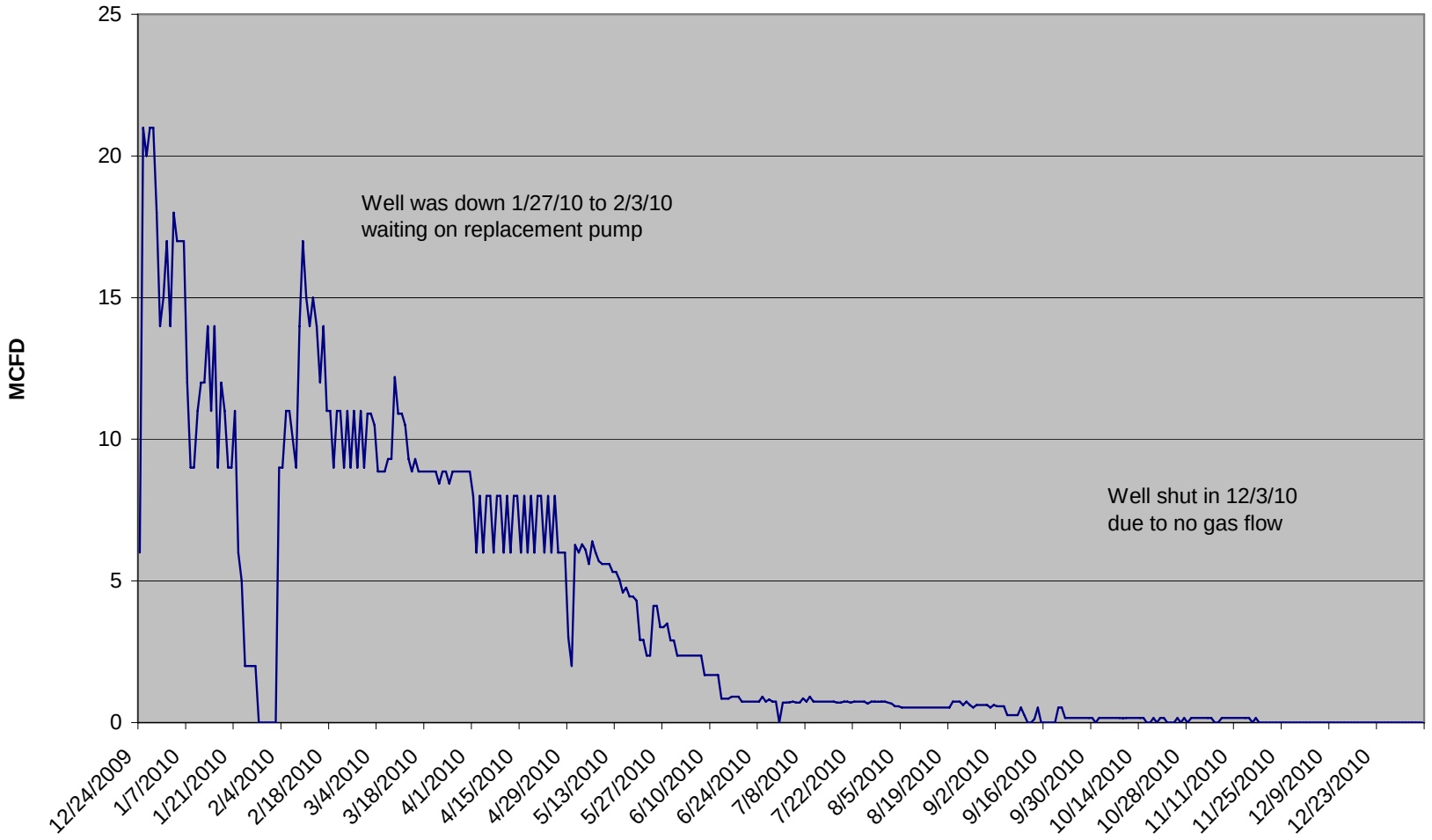
Recovery 3 PEI Gas Flow
from 4/15/08 to 1/5/11



Recovery 4 Barrett Gas Flow
from 5/15/08 to 1/5/11

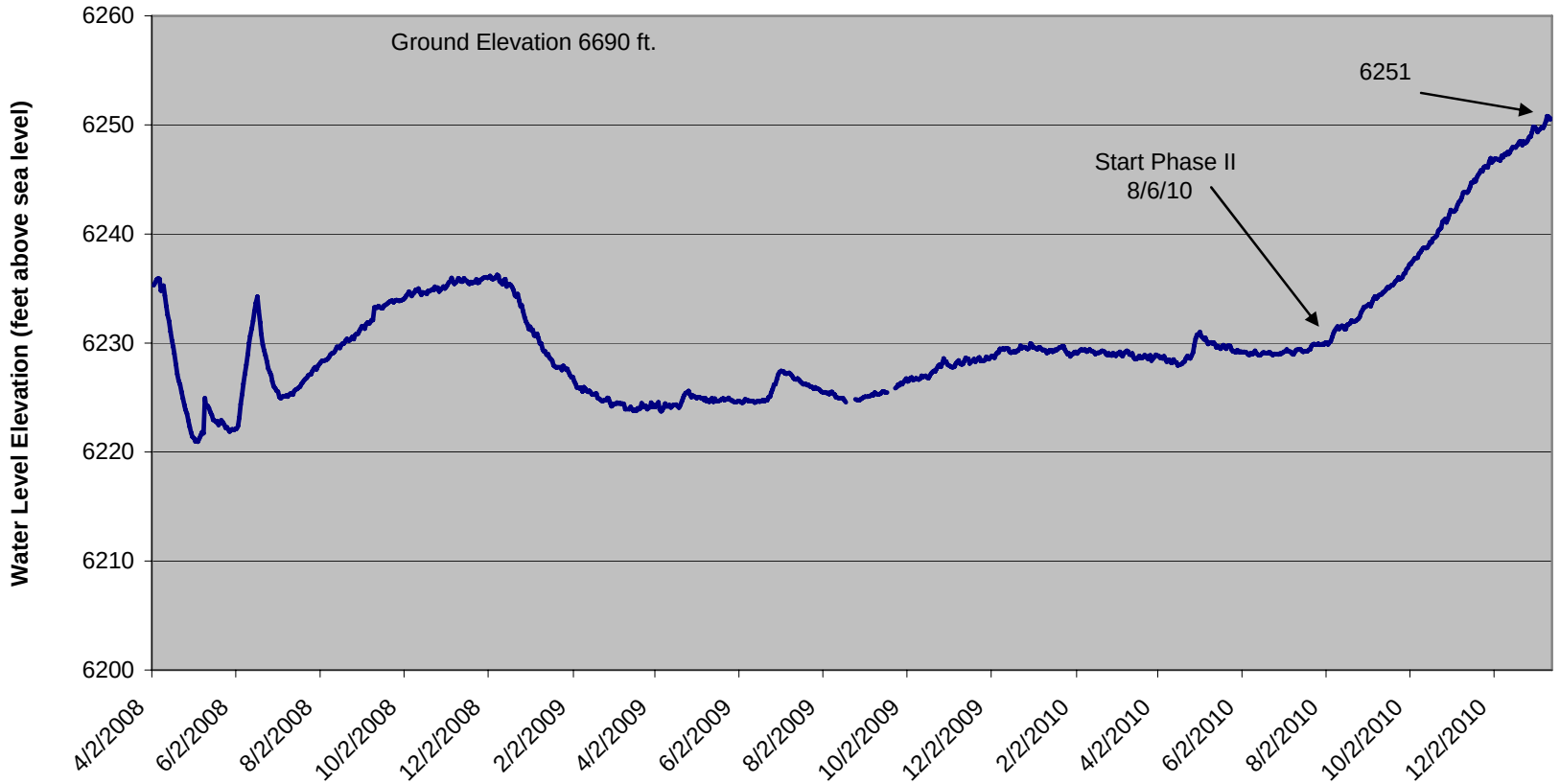


Recovery 5 Masters Gas Flow (Masters WW 257113) from 12/24/09 to 1/5/11

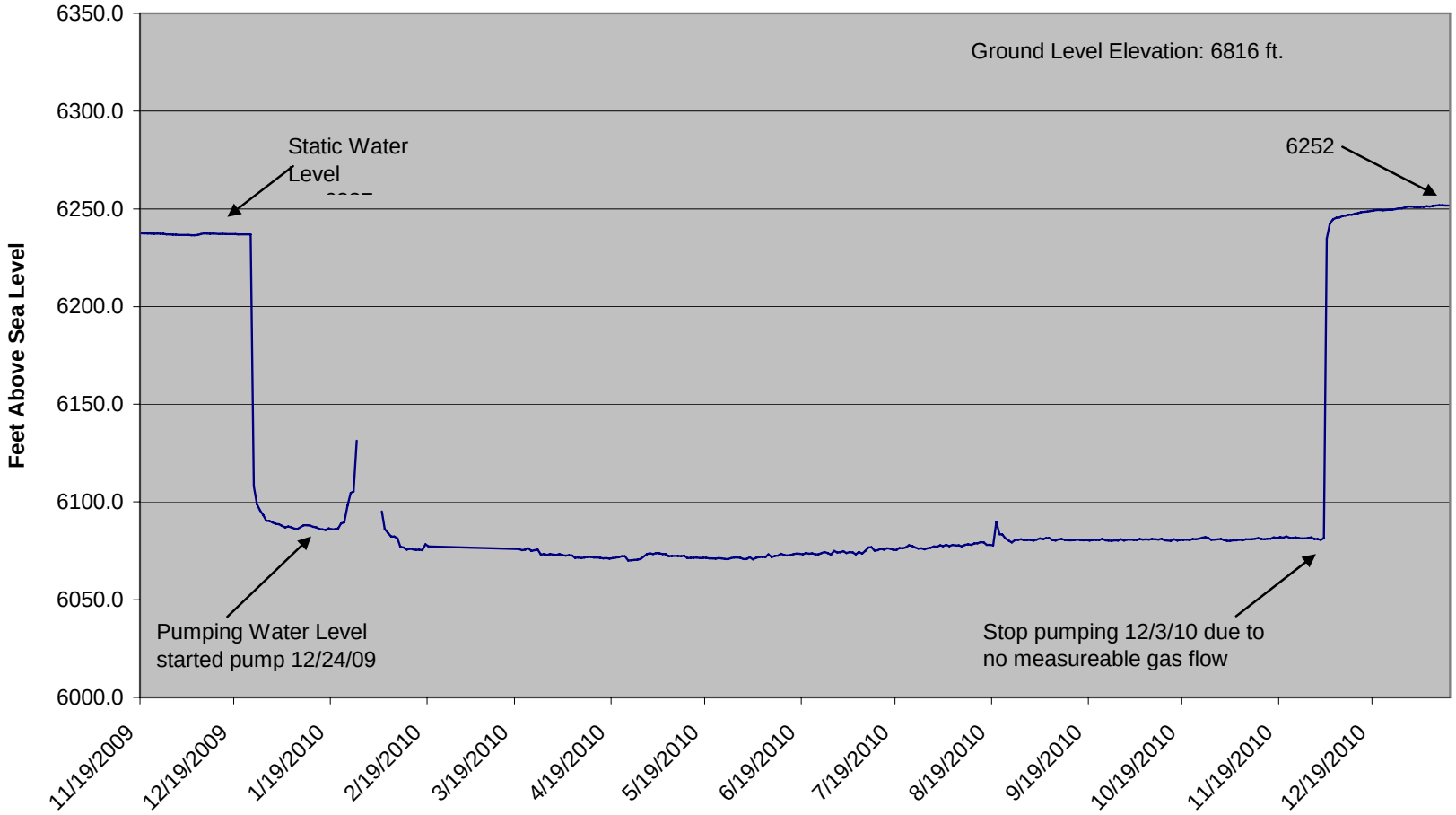


Attachment 2
Graphs of Pressure and Fluid Level Data From
POCI 55, Recovery 5 Masters, Barrett, Bergman, Bruington, Coleman, Evenden, Garza-Vela and Meyer

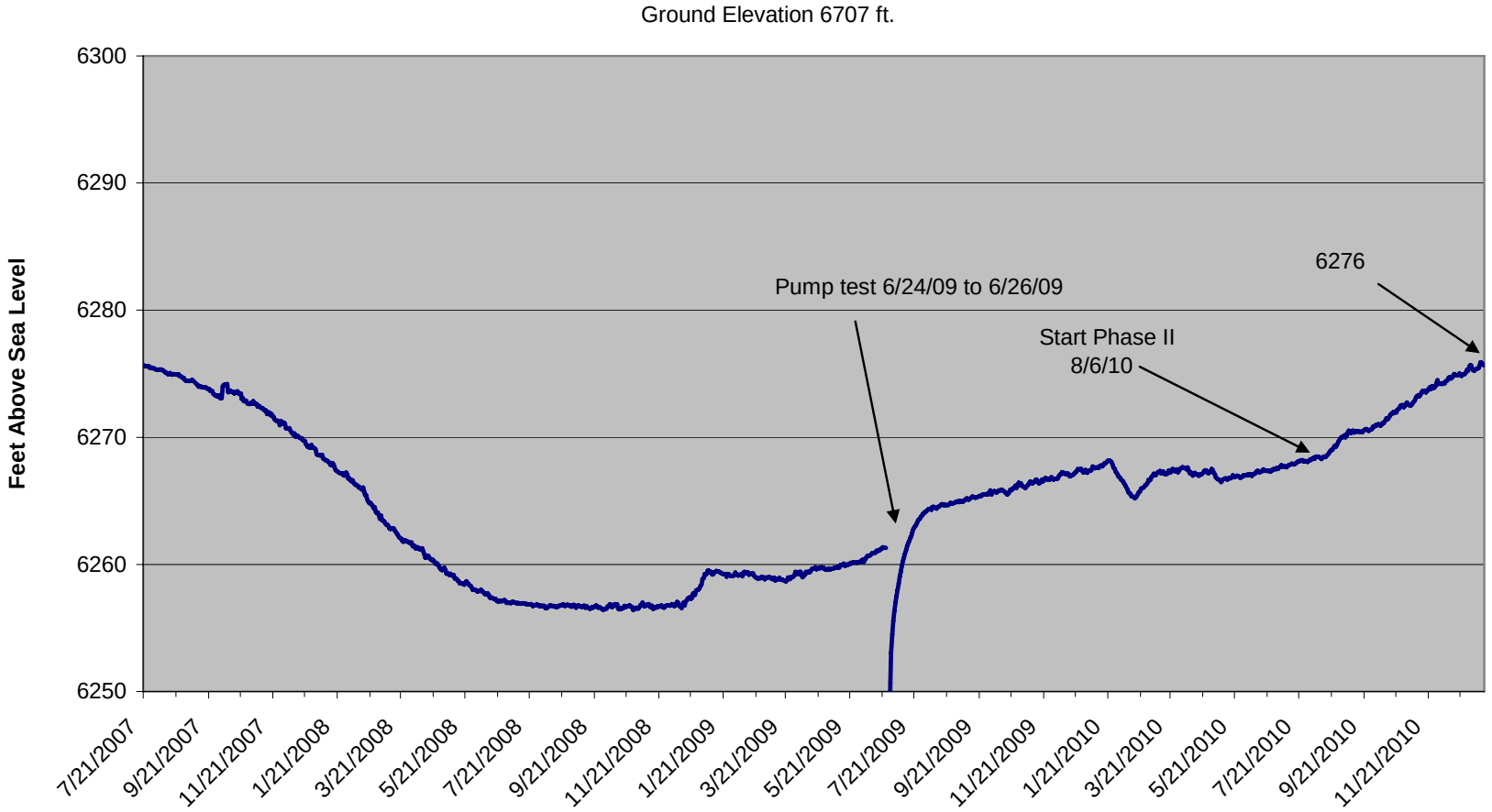
POCI 55 Monitor Well,
Static Water Level Elevation
from 4/2/08 to 1/12/11
Permit # 275819
Lot 55 RRR, SE SW Sec 3 29S 67W, GL elev. 6690'



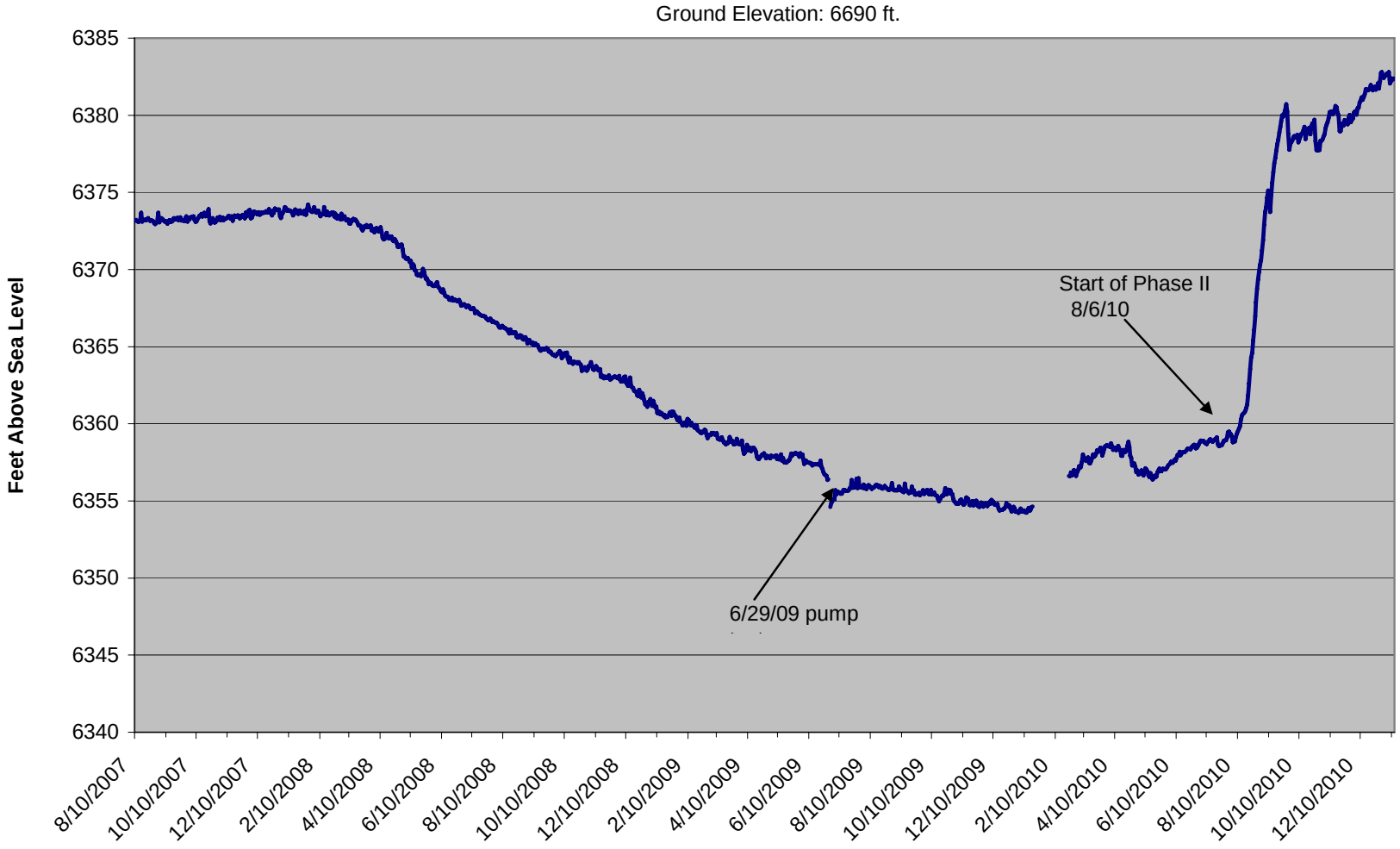
Recovery 5 Masters Water Level from 11/19/09 to 1/12/11
Permit # 68729-F (Masters WW # 257113)
RRR Lot 69



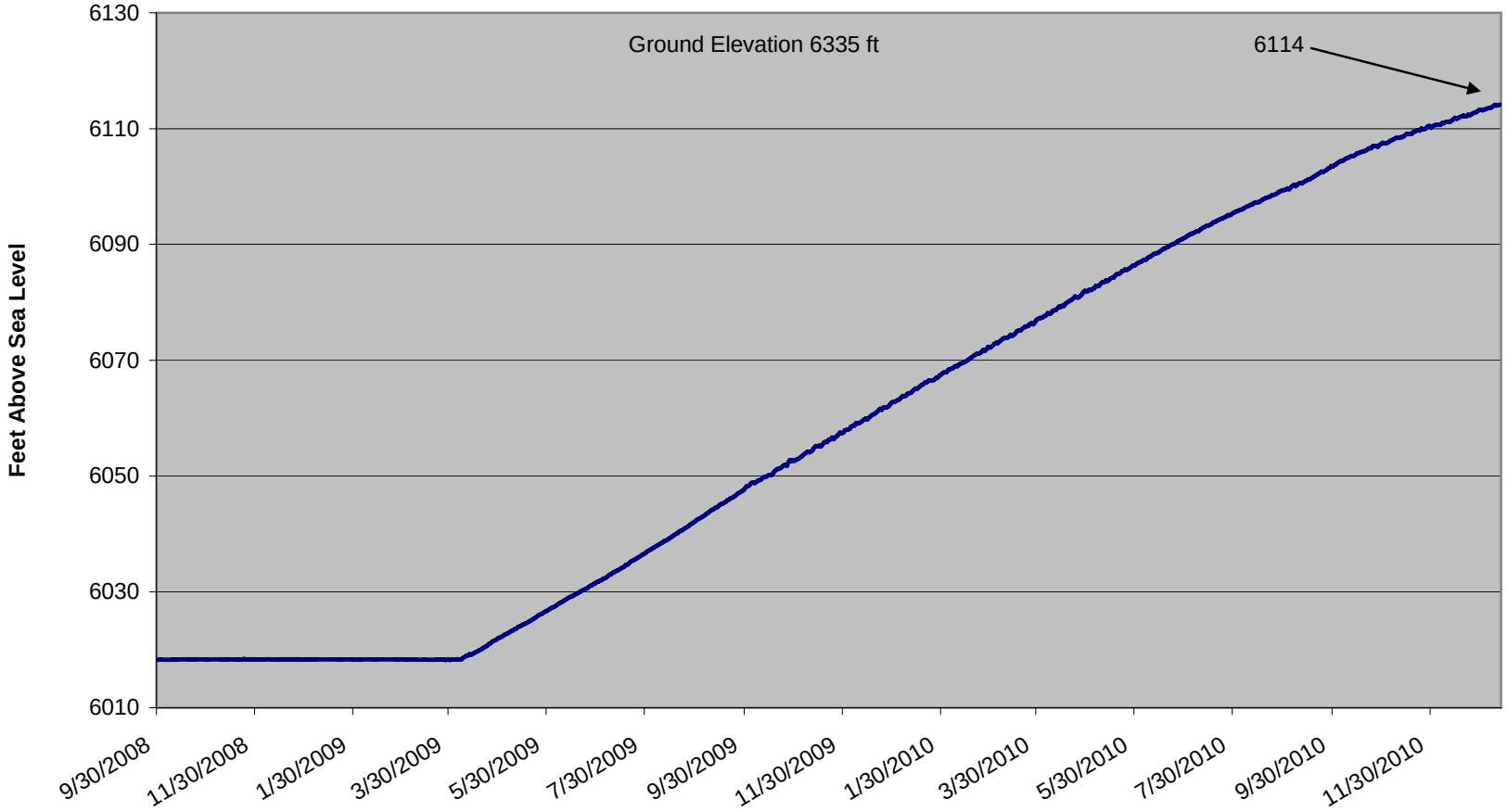
Barrett WW
Static Water Level from 7/21/07 to 1/12/11
Permit # 257994
Lot 57 RRR



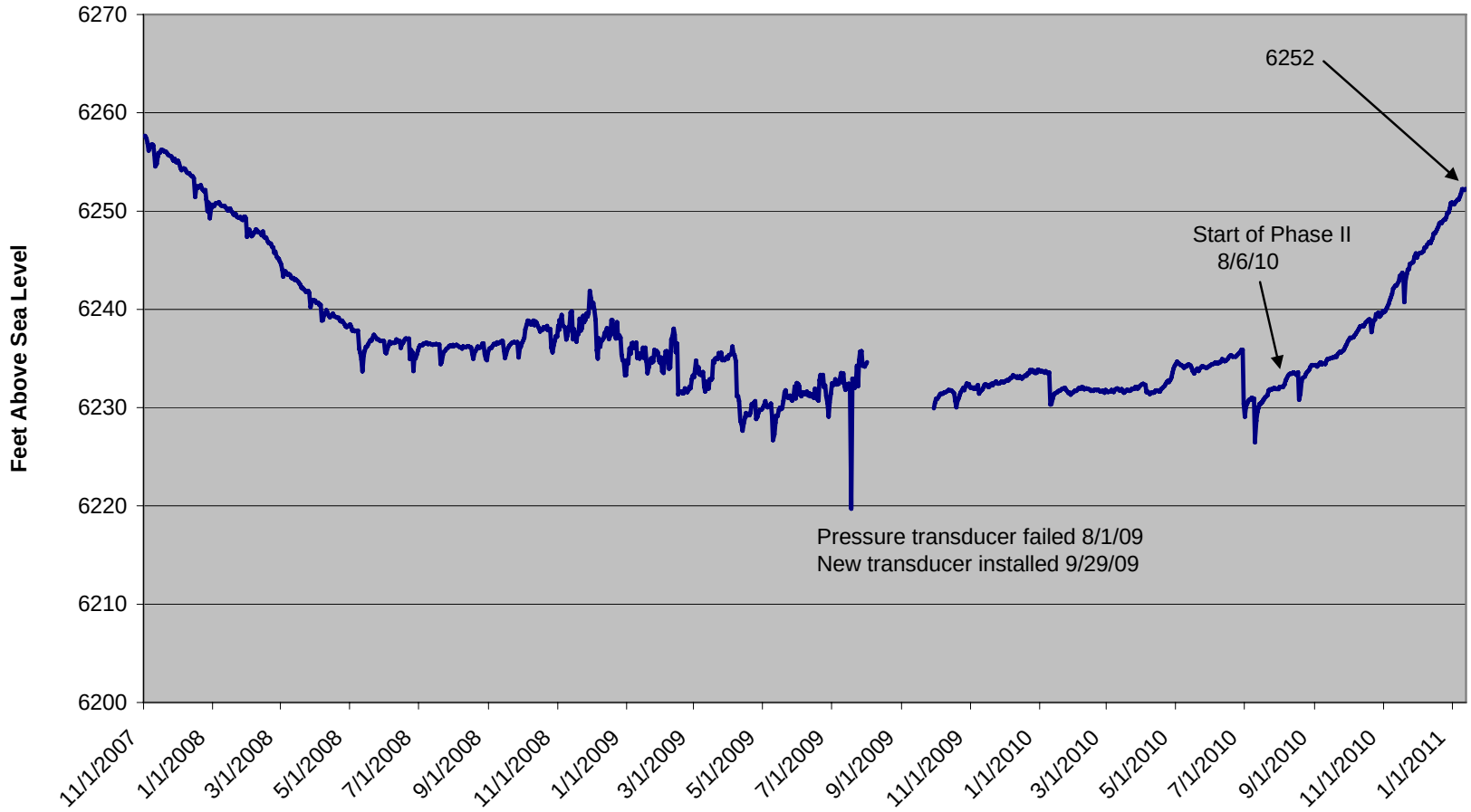
Bergman WW, Static Water Level from 8/10/07 to 1/12/11
Permit # 244403, Lot 48 RRR



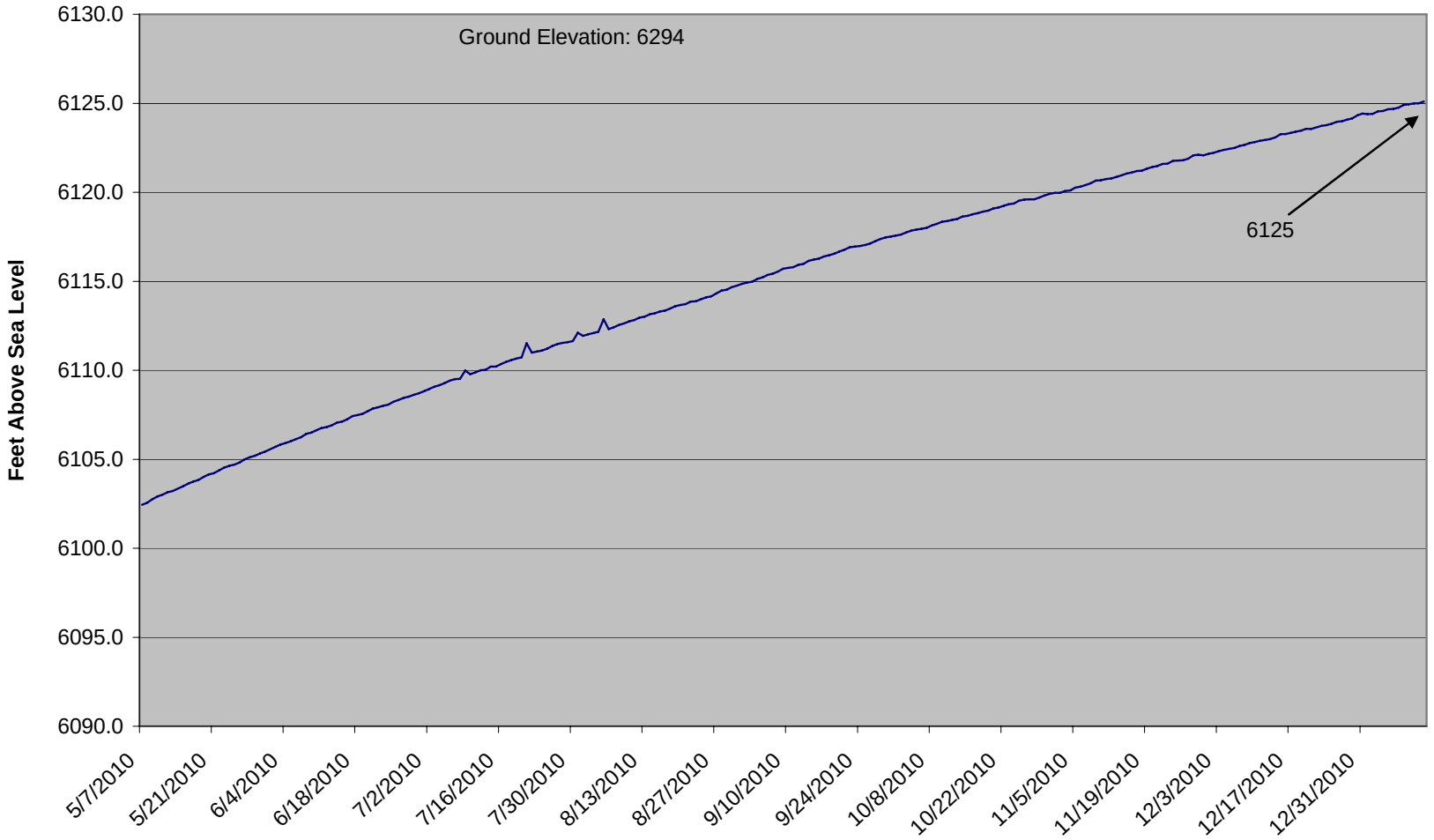
Bruington WW, Permit # 210526, City Ranches Lot 15
Static Water Level
from 9/30/08 to 1/12/11



Coleman WW, Water Level from 11/1/07 to 1/12/11
Permit # 267694 Lot 70 RRR
G.L. elev. 6848'

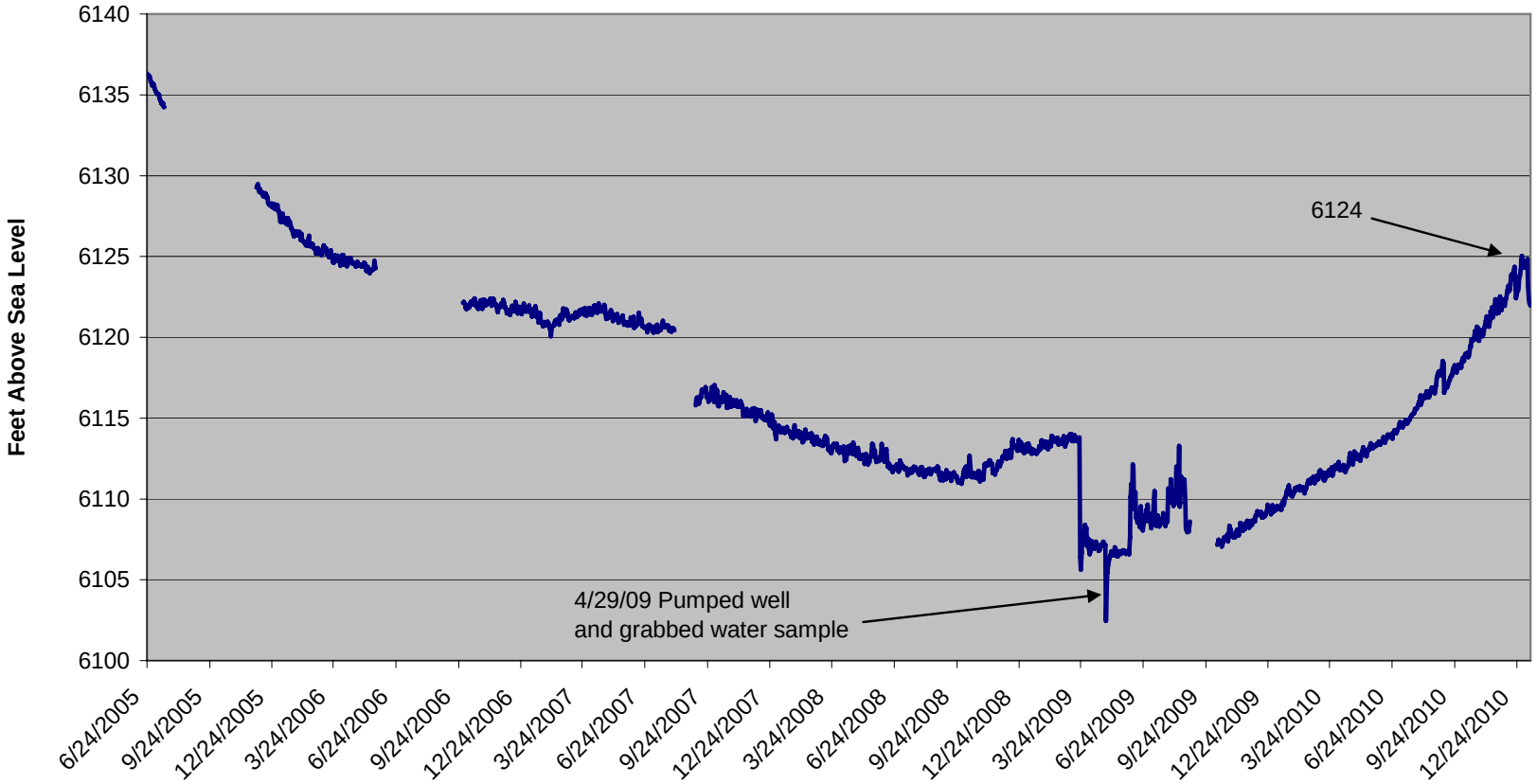


T. Gonzales WW, Permit #285651, City Ranches Lot 79A
Static Water Level from 5/7/10 to 1/12/11



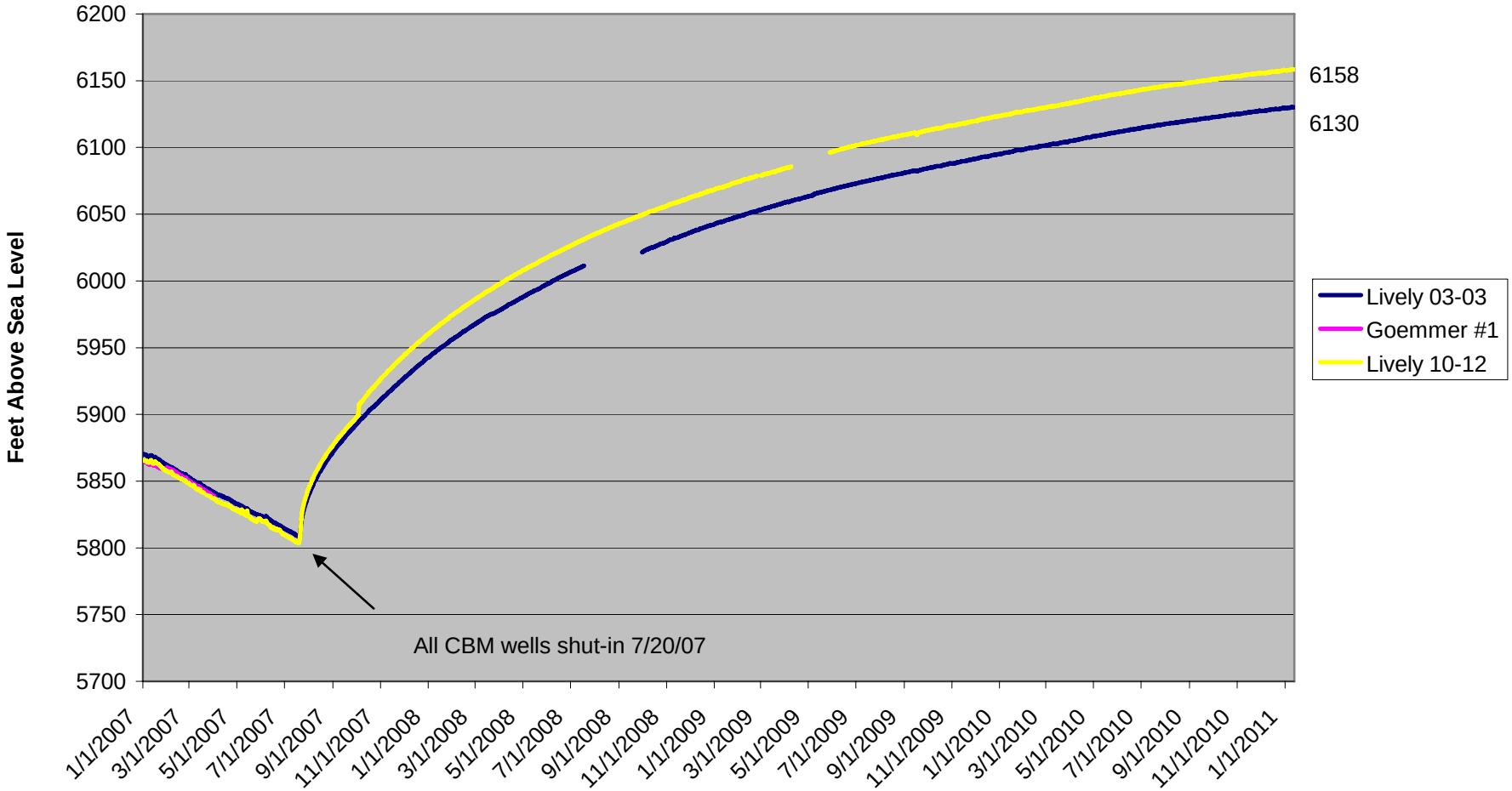
Meyer WW Permit # 248862
Static Water Level
from 6/24/05 to 1/12/11

Ground Elevation: 6575 ft.

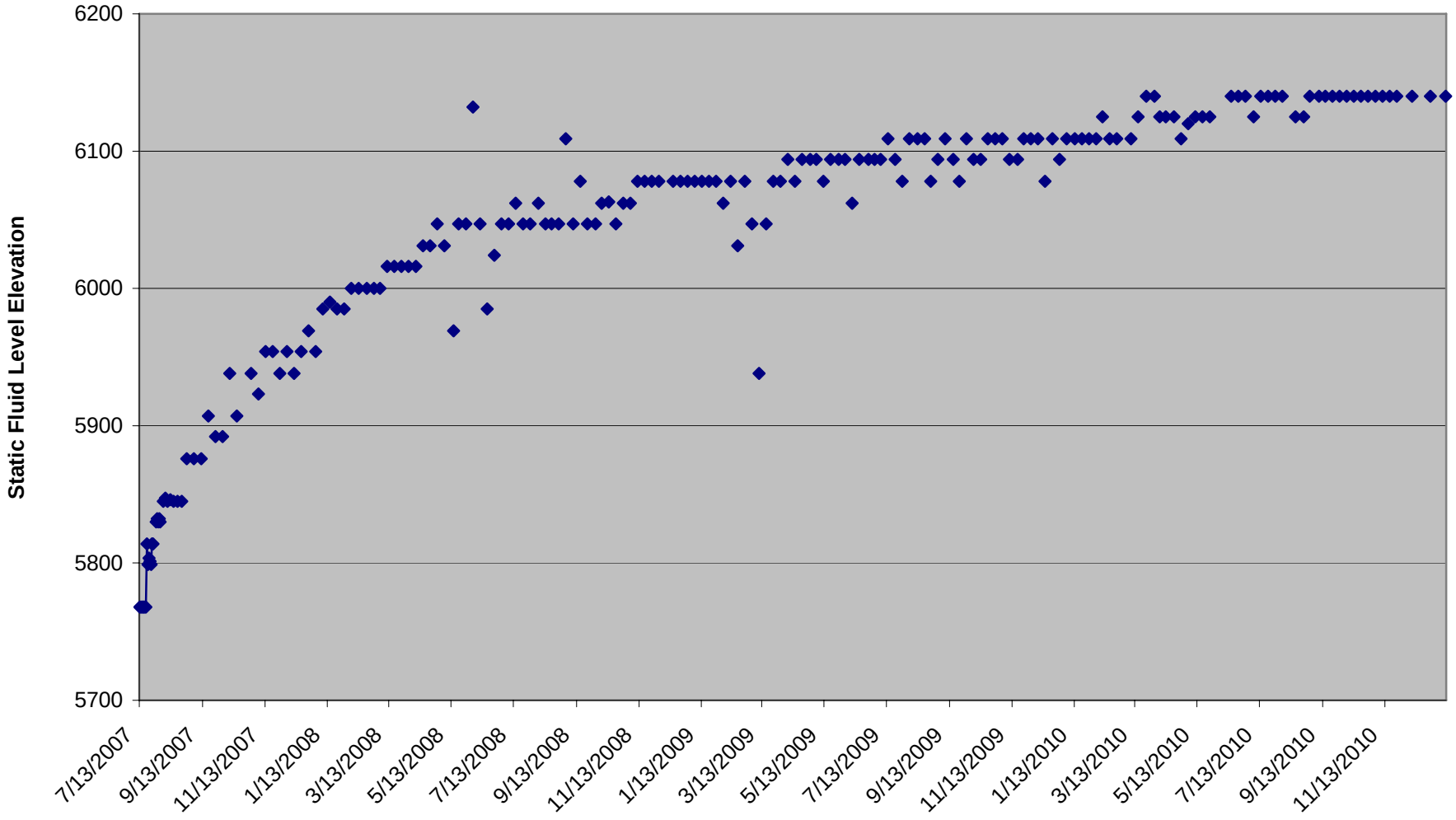


Attachment 3
Fluid Levels in Petroglyph Production Wells

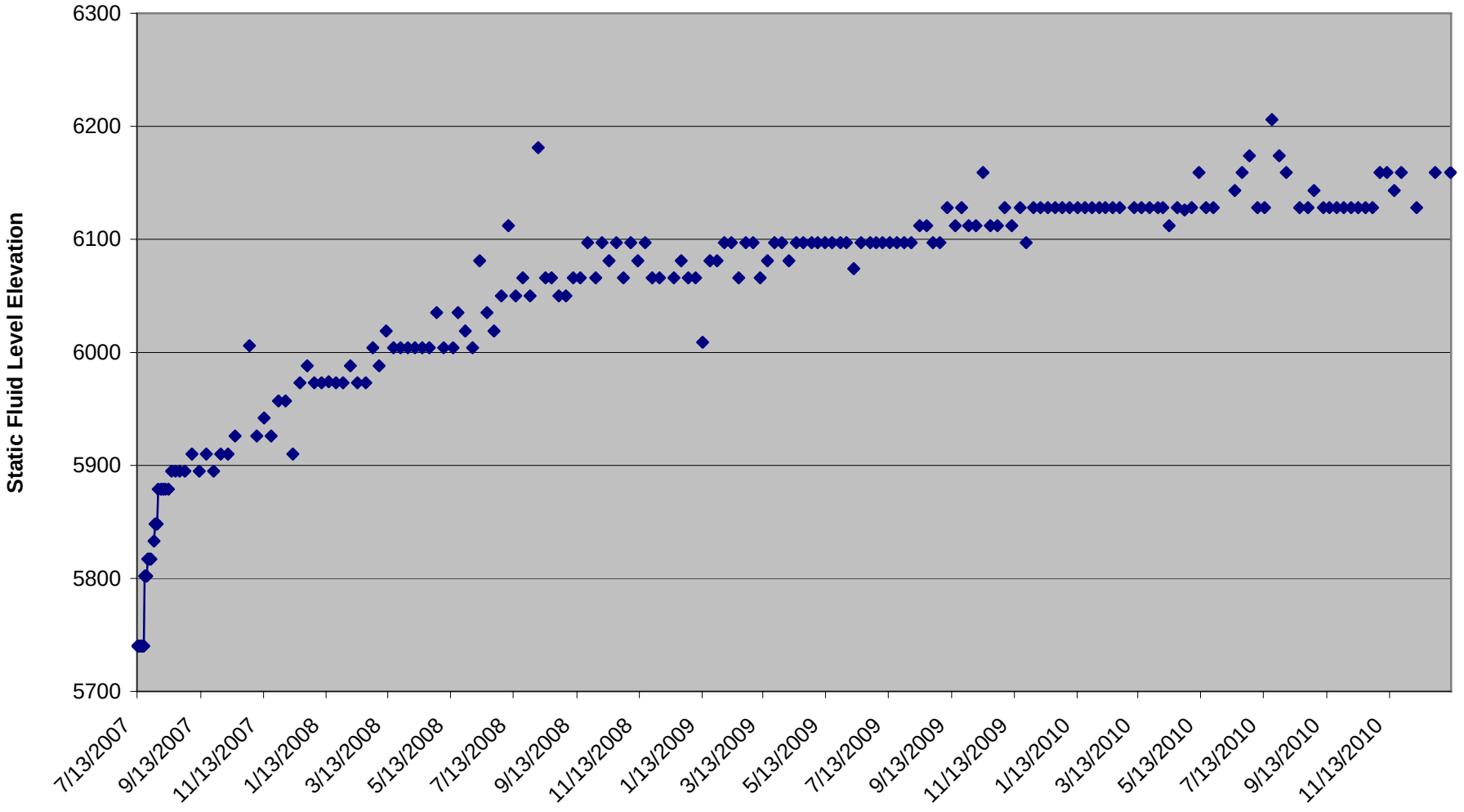
Vermejo/Trinidad Monitor Wells
Static Water Level
from 1/1/07 to 1/12/11



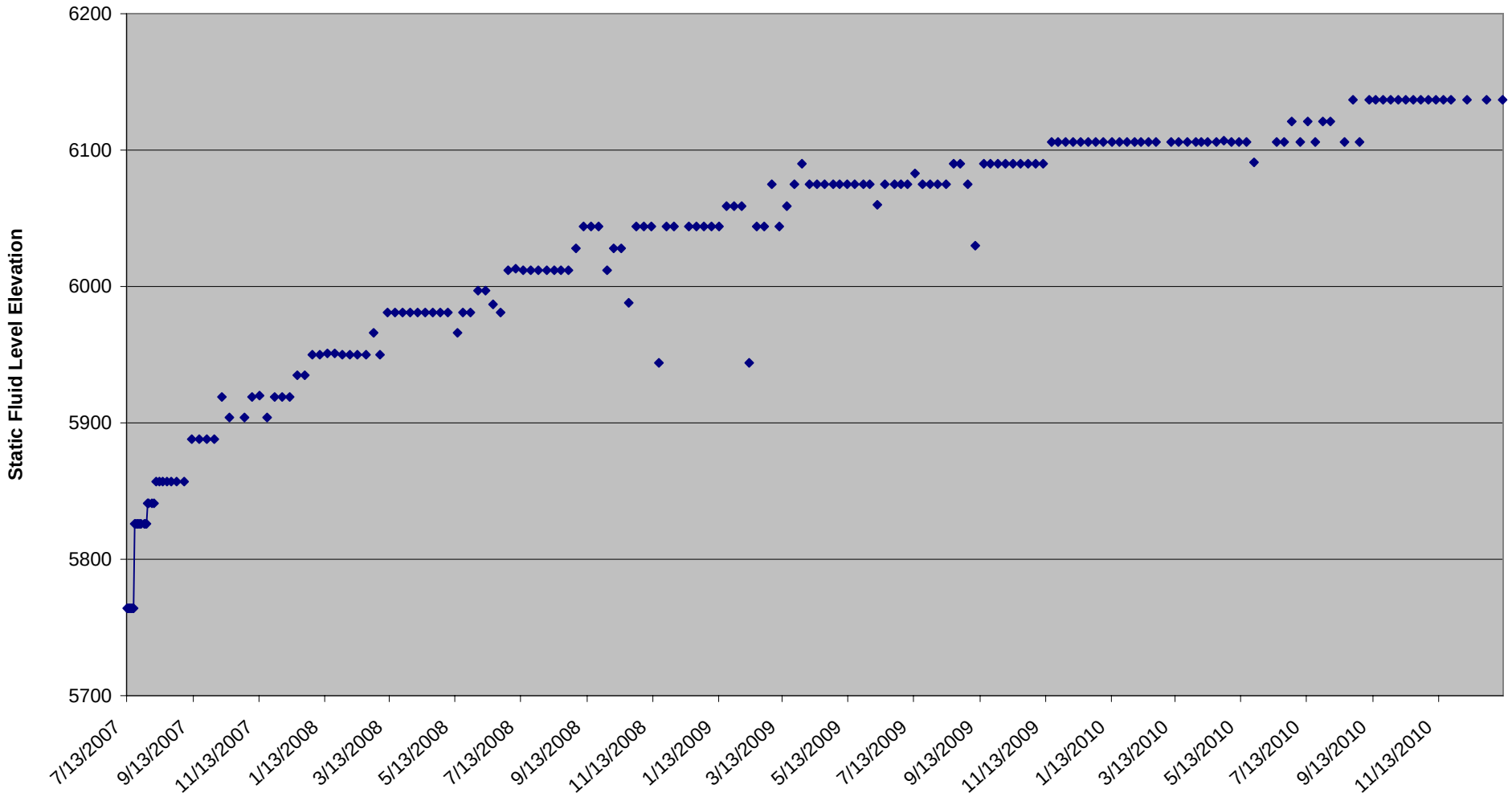
Lively 02-02
7/13/07 thru 1/11/11
Wells shut down 7/20/07



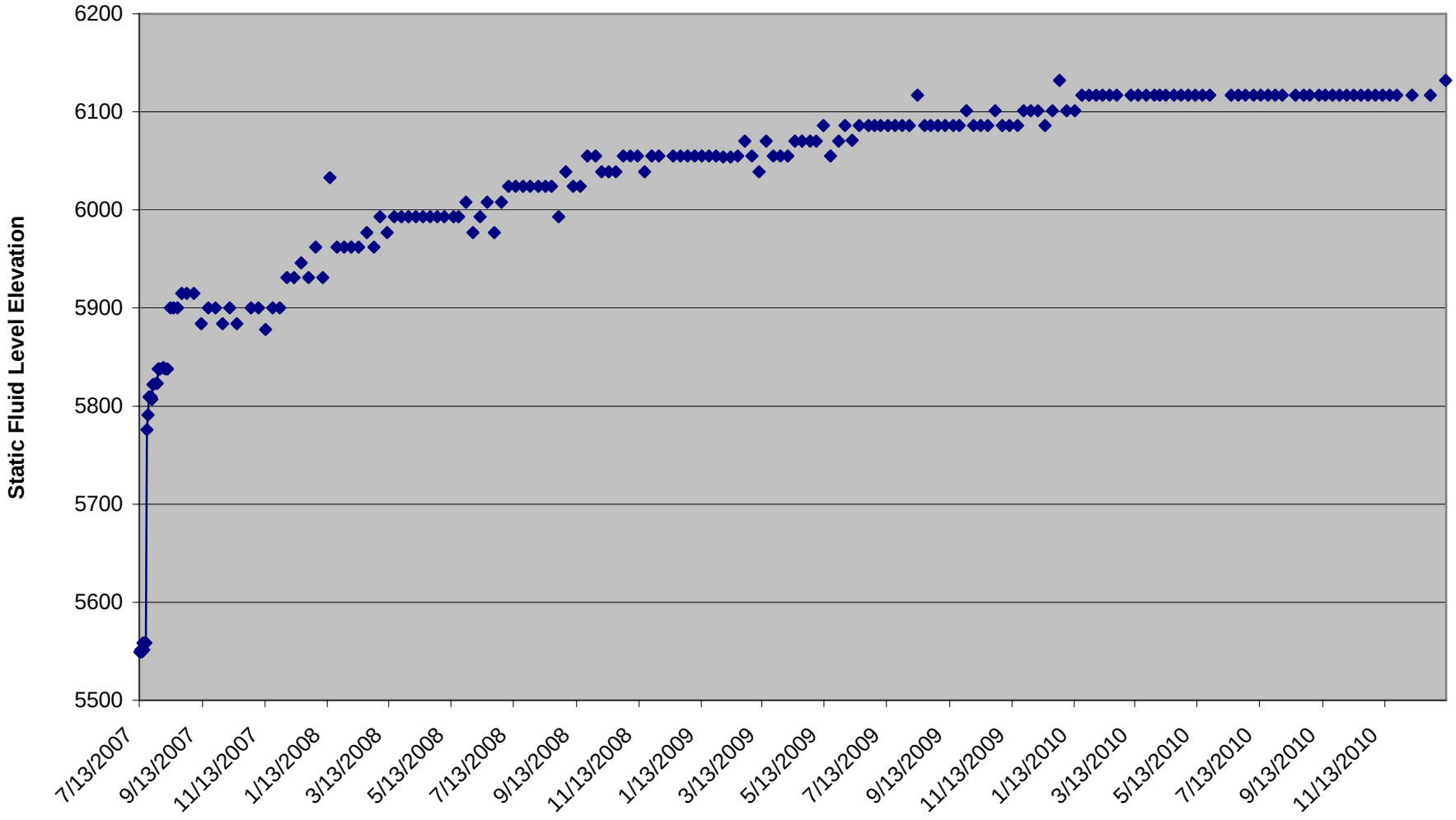
Lively 02-12
7/13/07 thru 1/11/11
Wells shut down 7/20/07



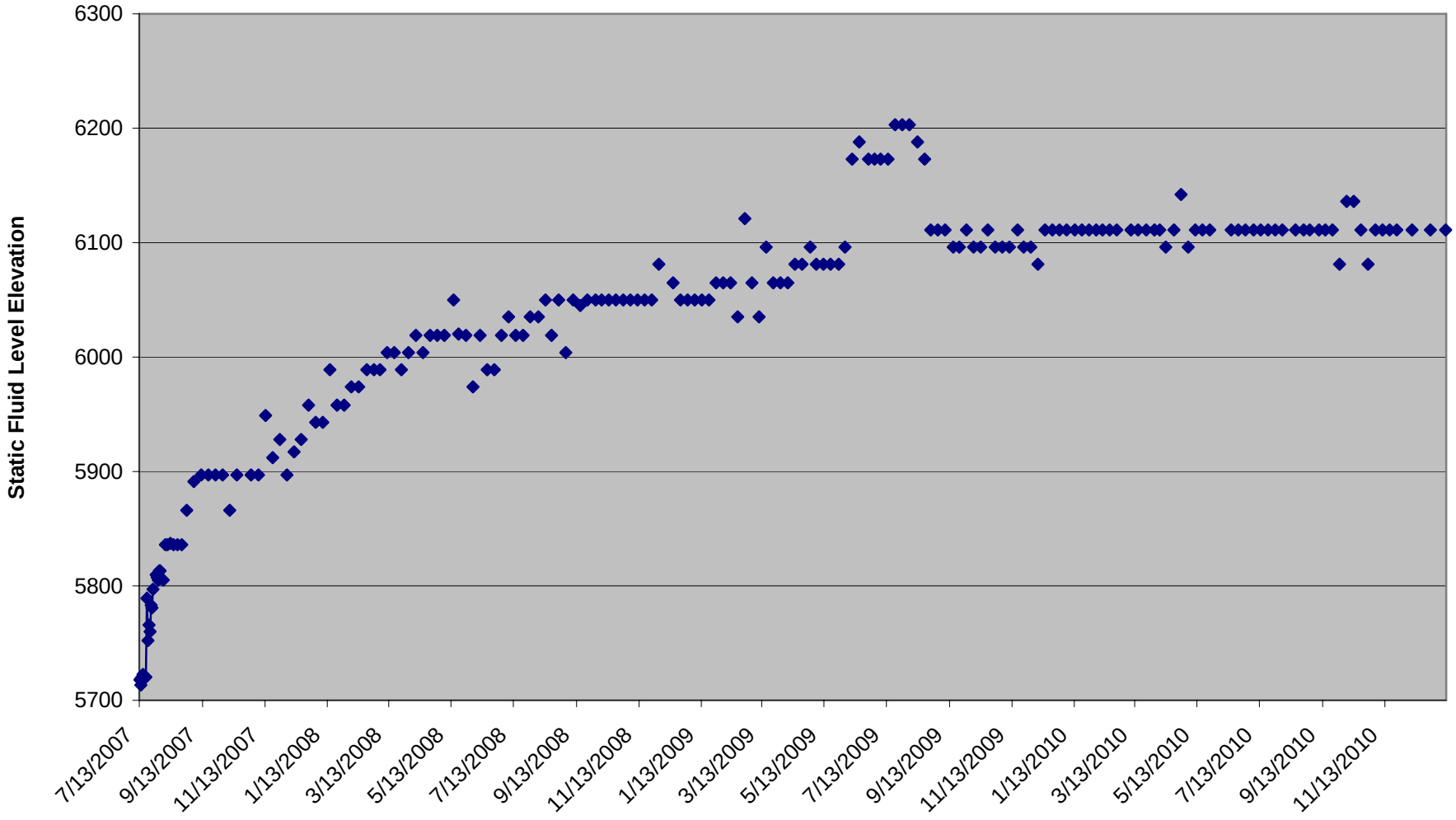
Lively 03-01
7/13/07 thru 1/11/11
Wells shut down 7/20/07



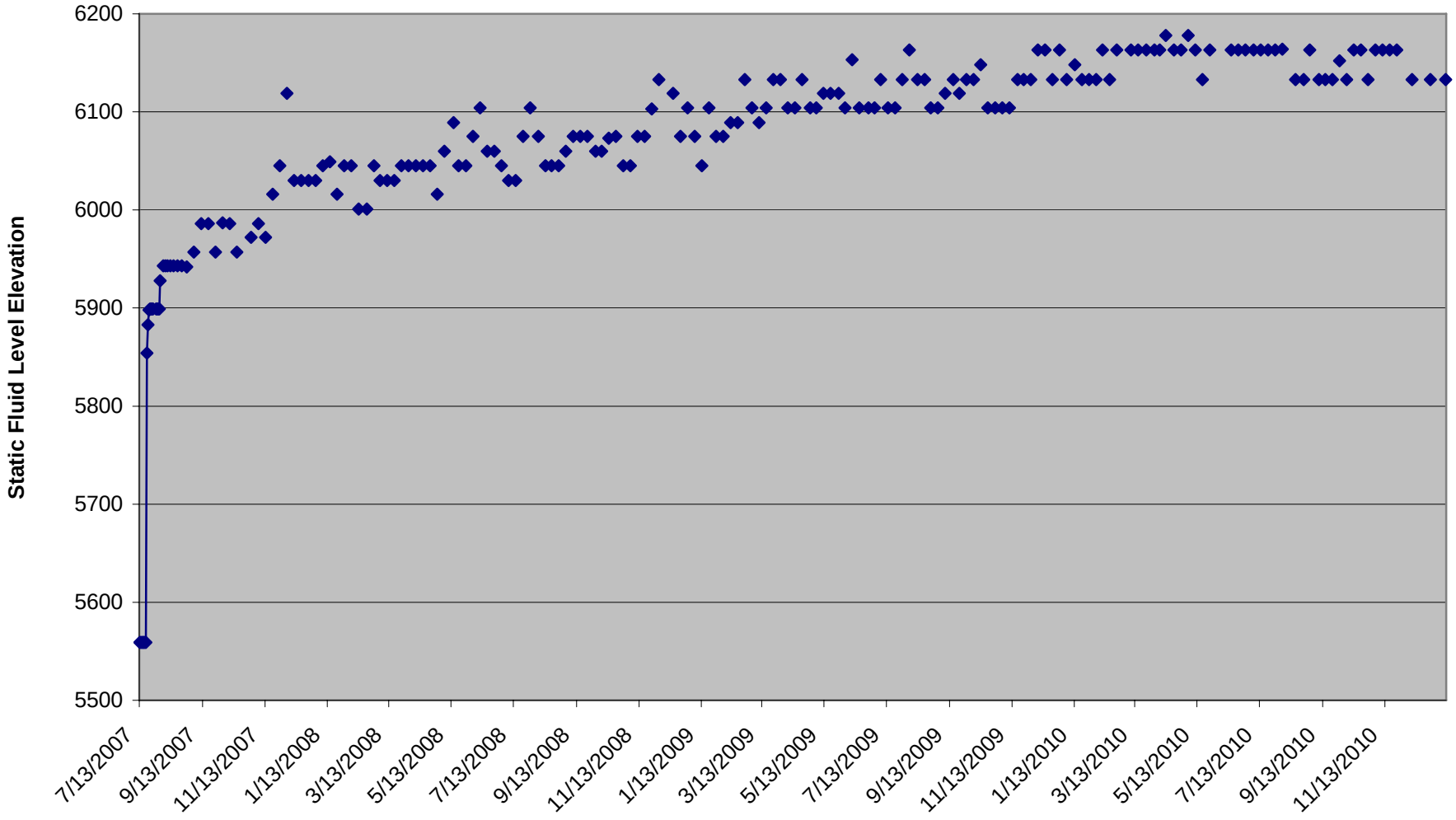
Lively 03-10
7/13/07 thru 1/11/11
Wells shut down 7/20/07



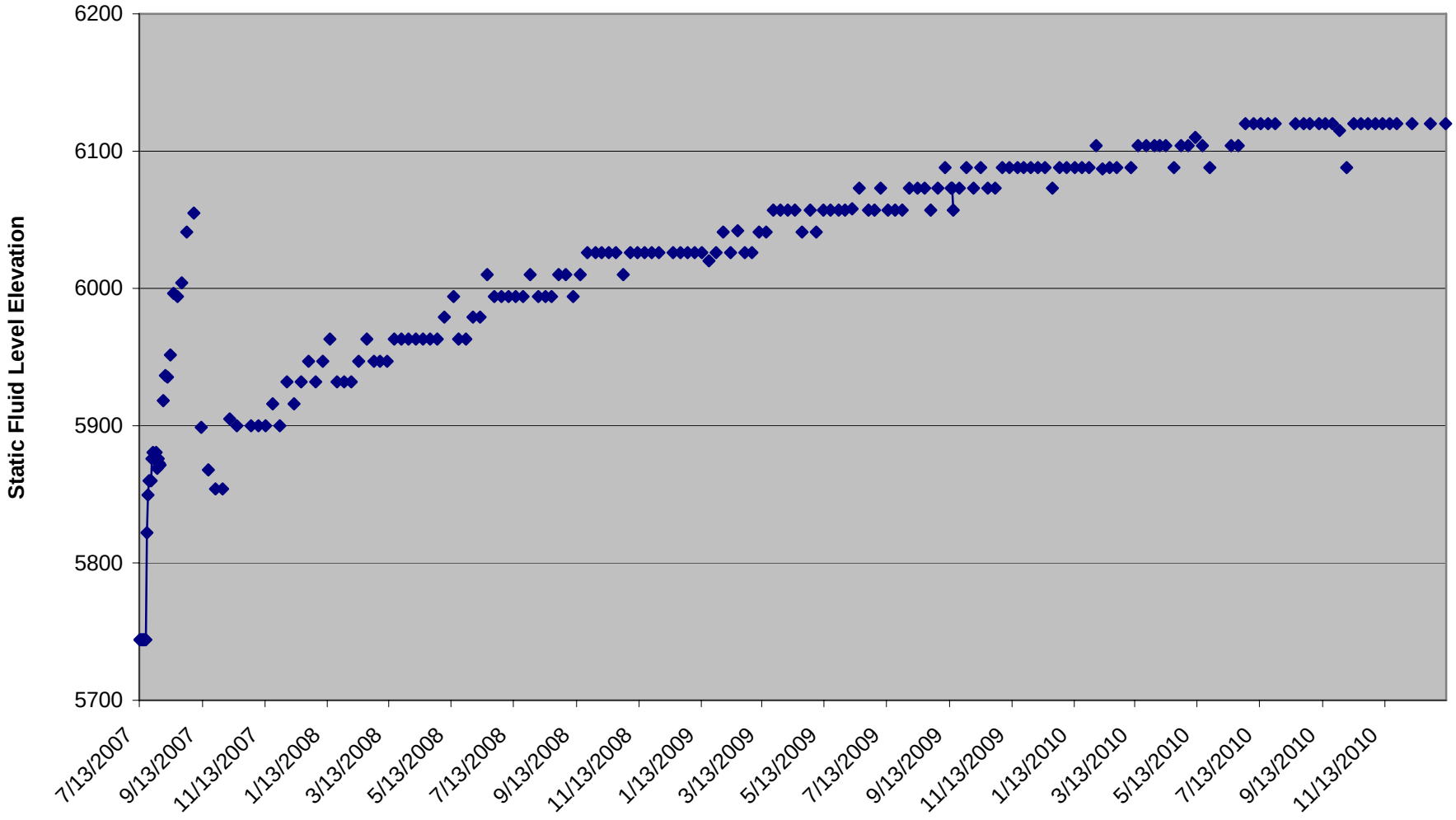
Lively 03-12
7/13/07 thru 1/11/11
Wells shut down 7/20/07



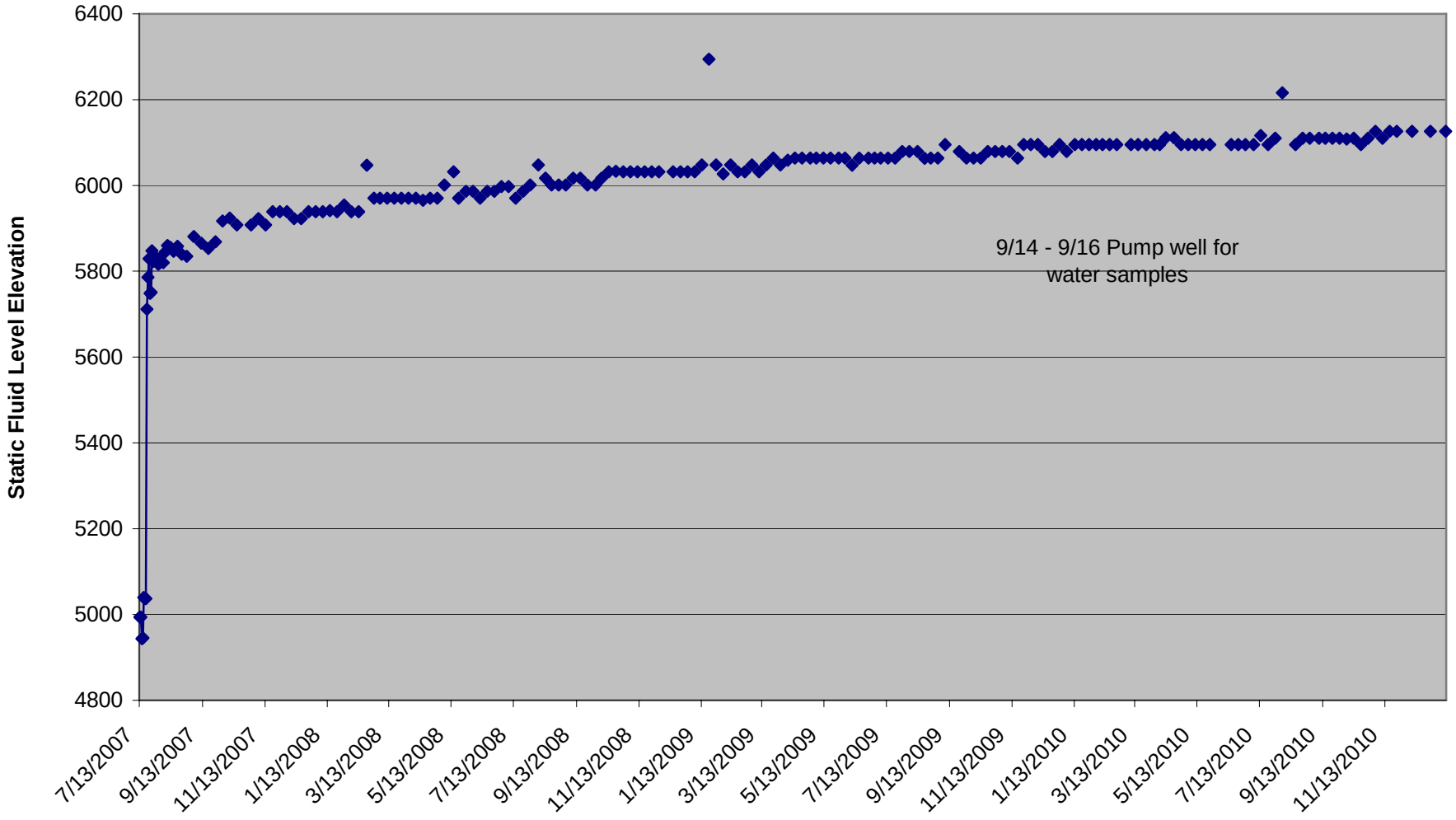
Lively 10-04
7/13/07 thru 1/11/11
Wells shut down 7/20/07



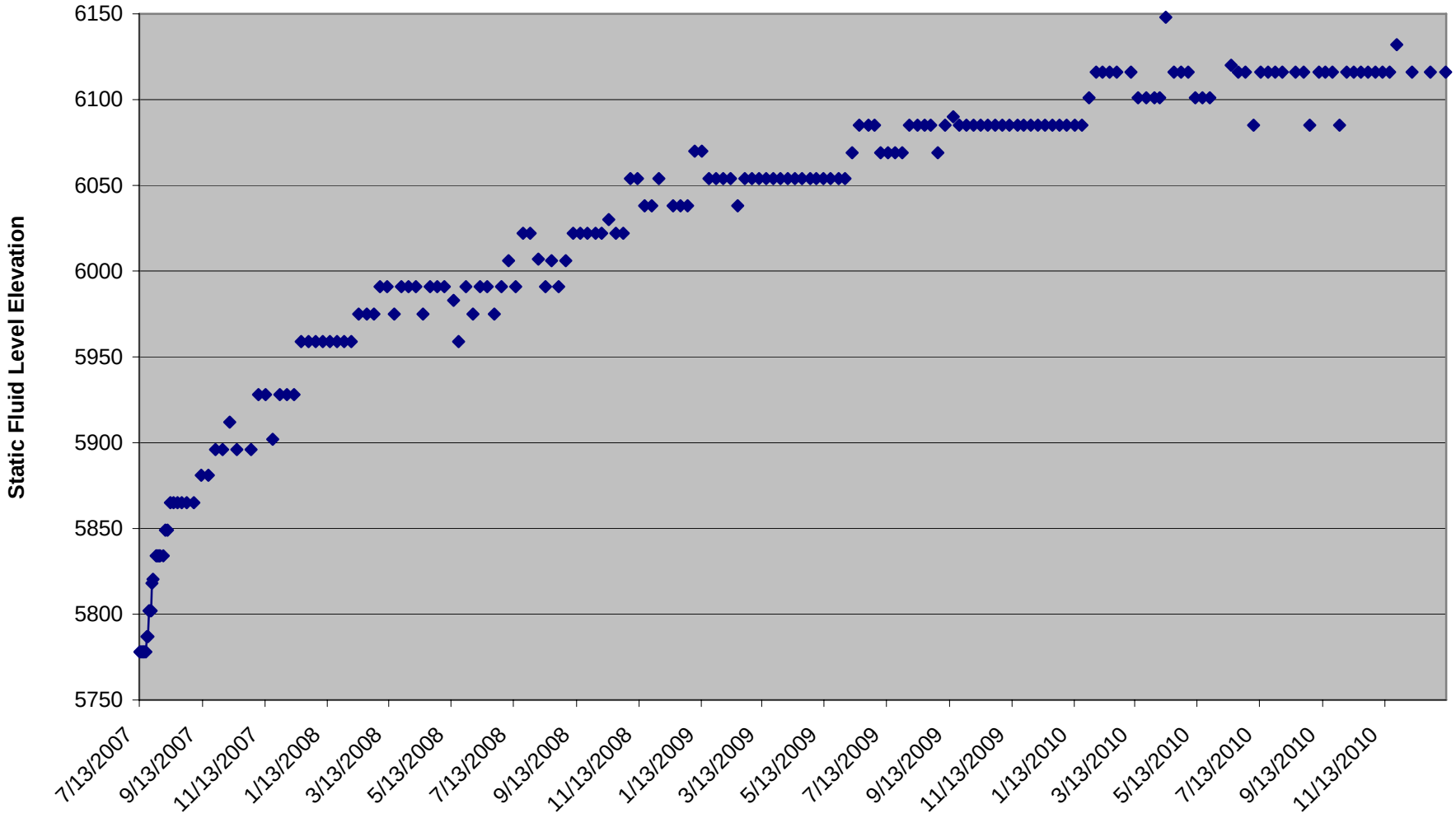
Rohr 04-10
7/13/07 thru 1/11/11
Wells shut down 7/20/07



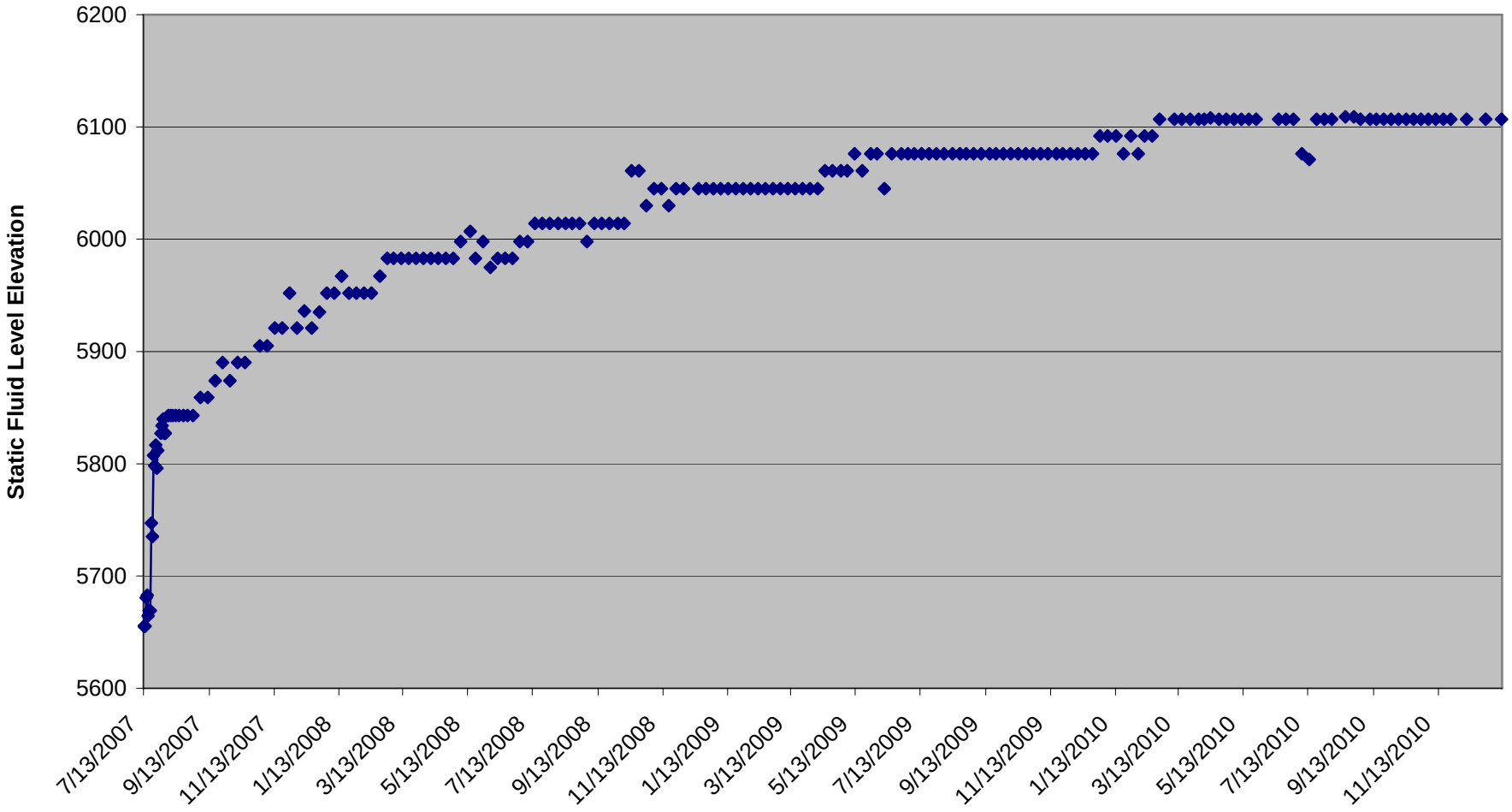
Rohr 09-10
7/13/07 thru 1/11/11
Wells shut down 7/20/07



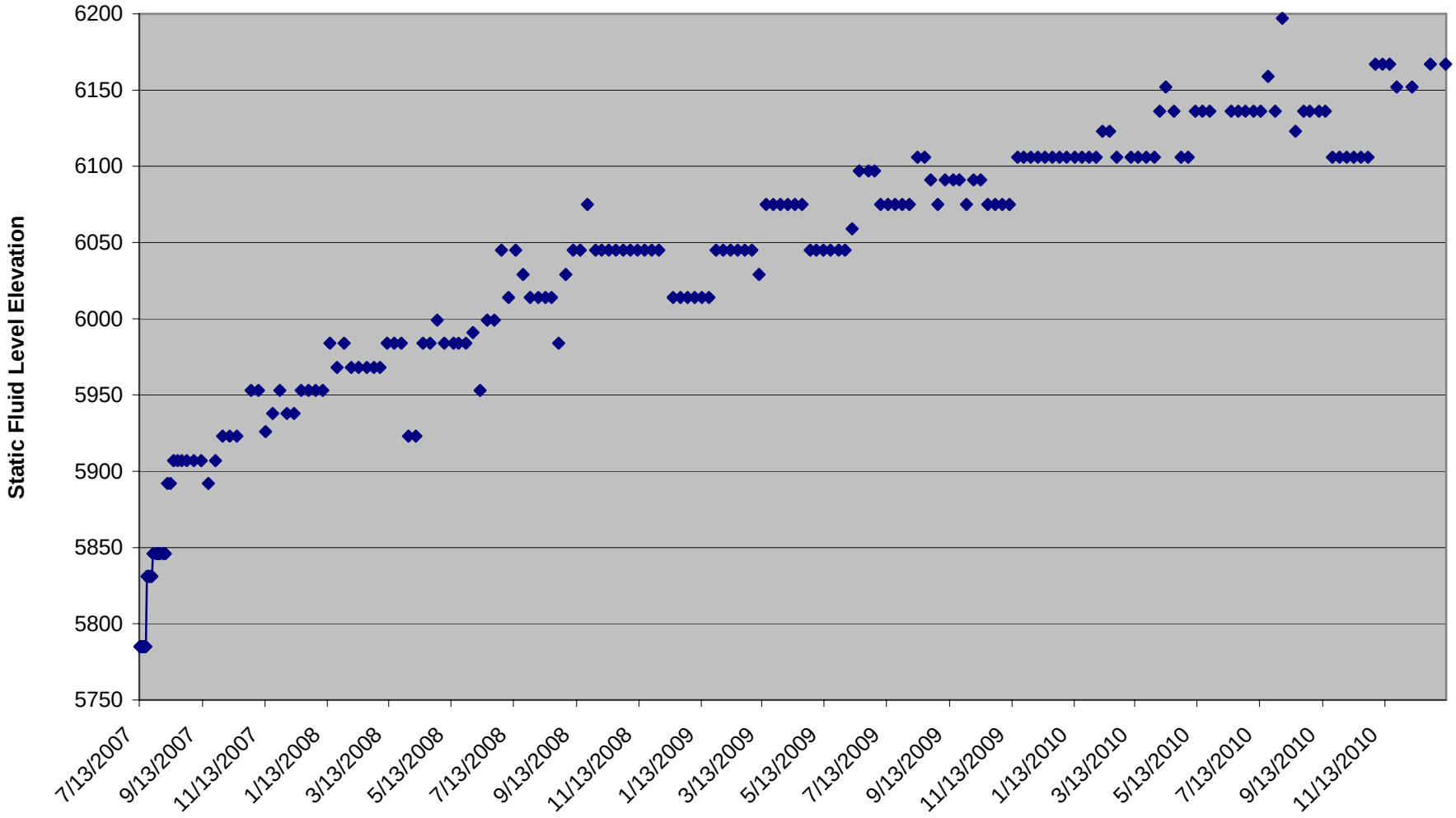
State 36-02
7/13/07 thru 1/11/11
Wells shut down 7/20/07



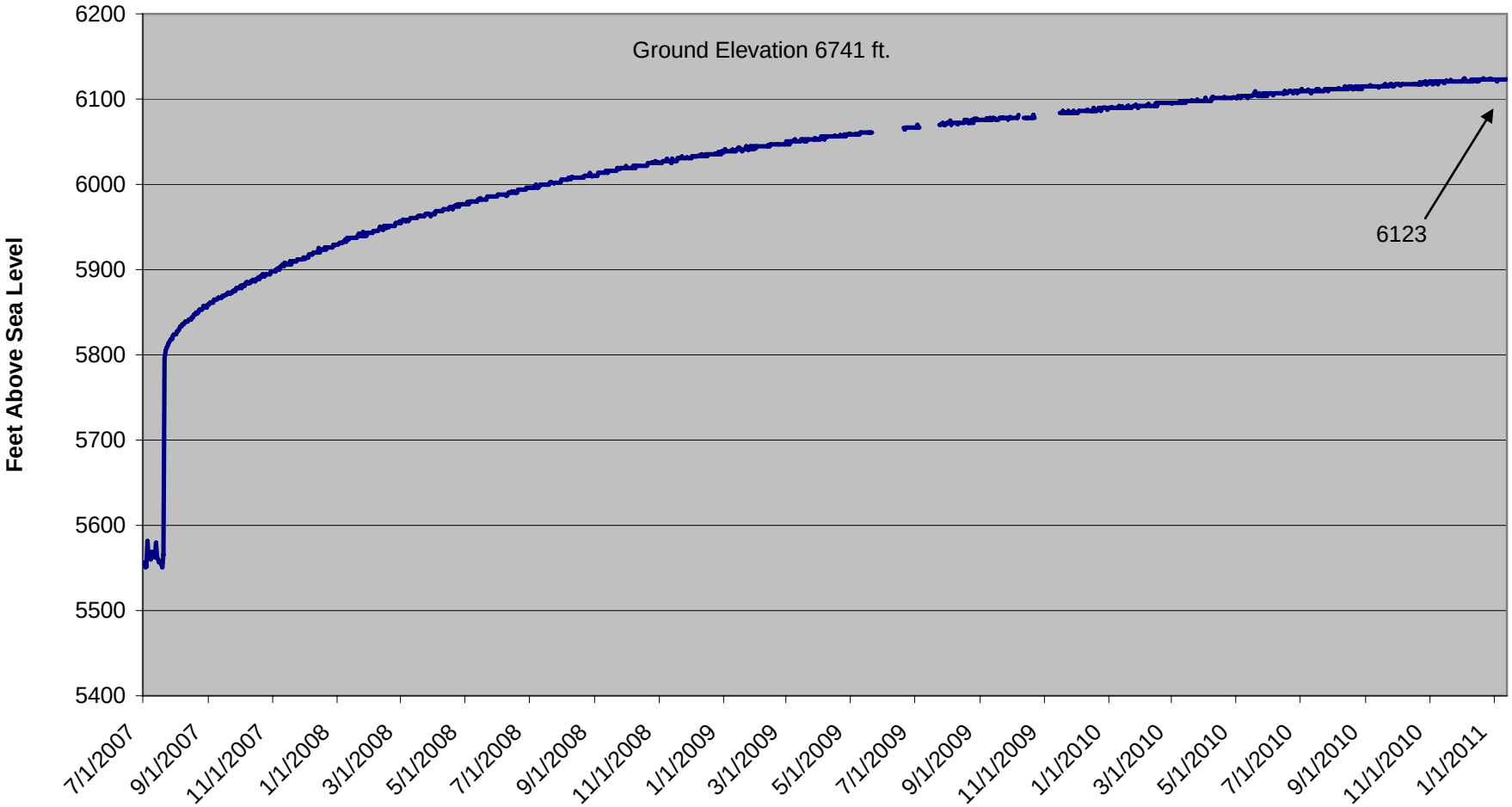
State 36-05
7/13/07 thru 1/11/11
Wells shut down 7/20/07



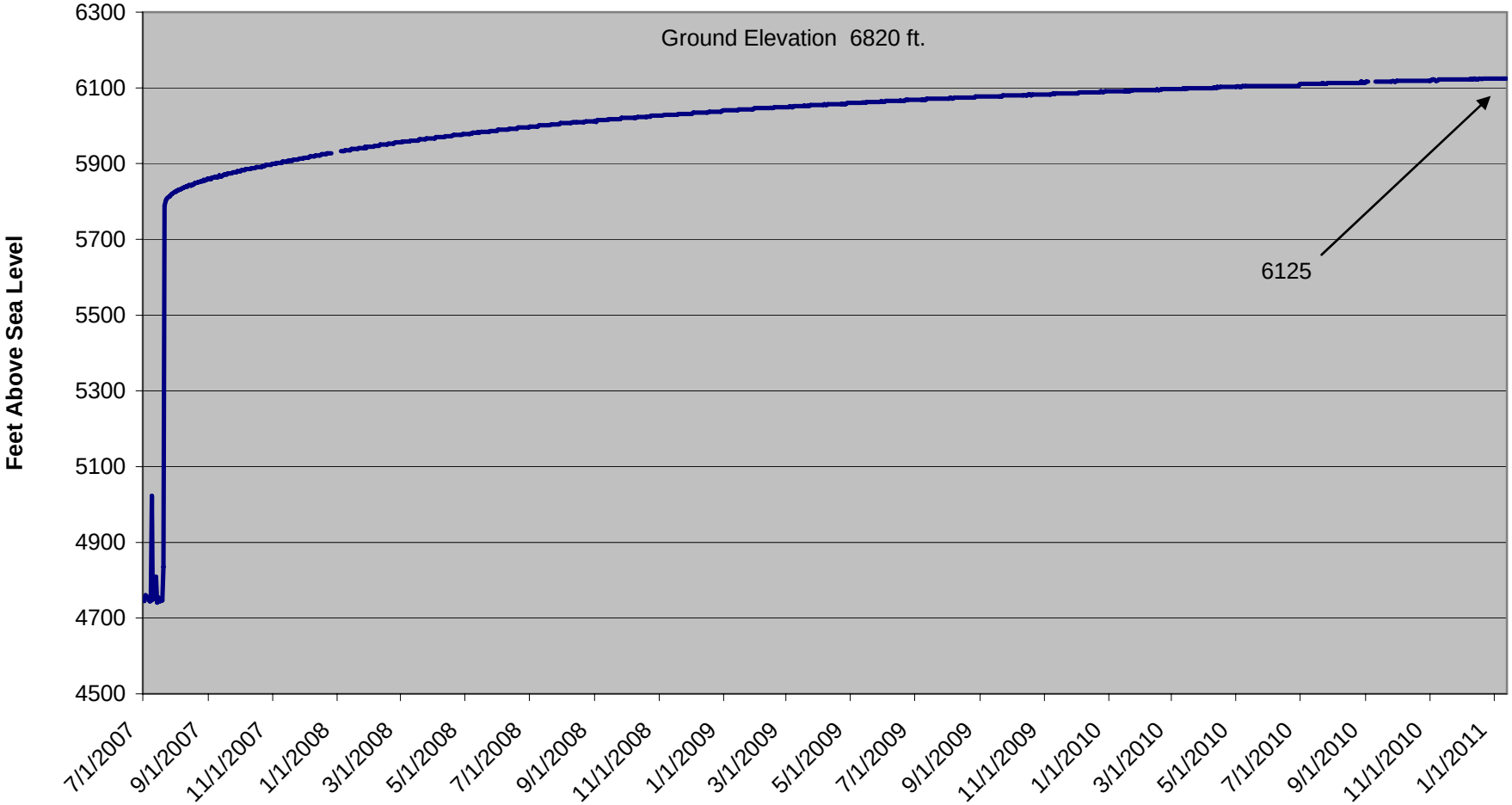
State 36-11
7/13/07 thru 1/11/11
Wells shut down 7/20/07



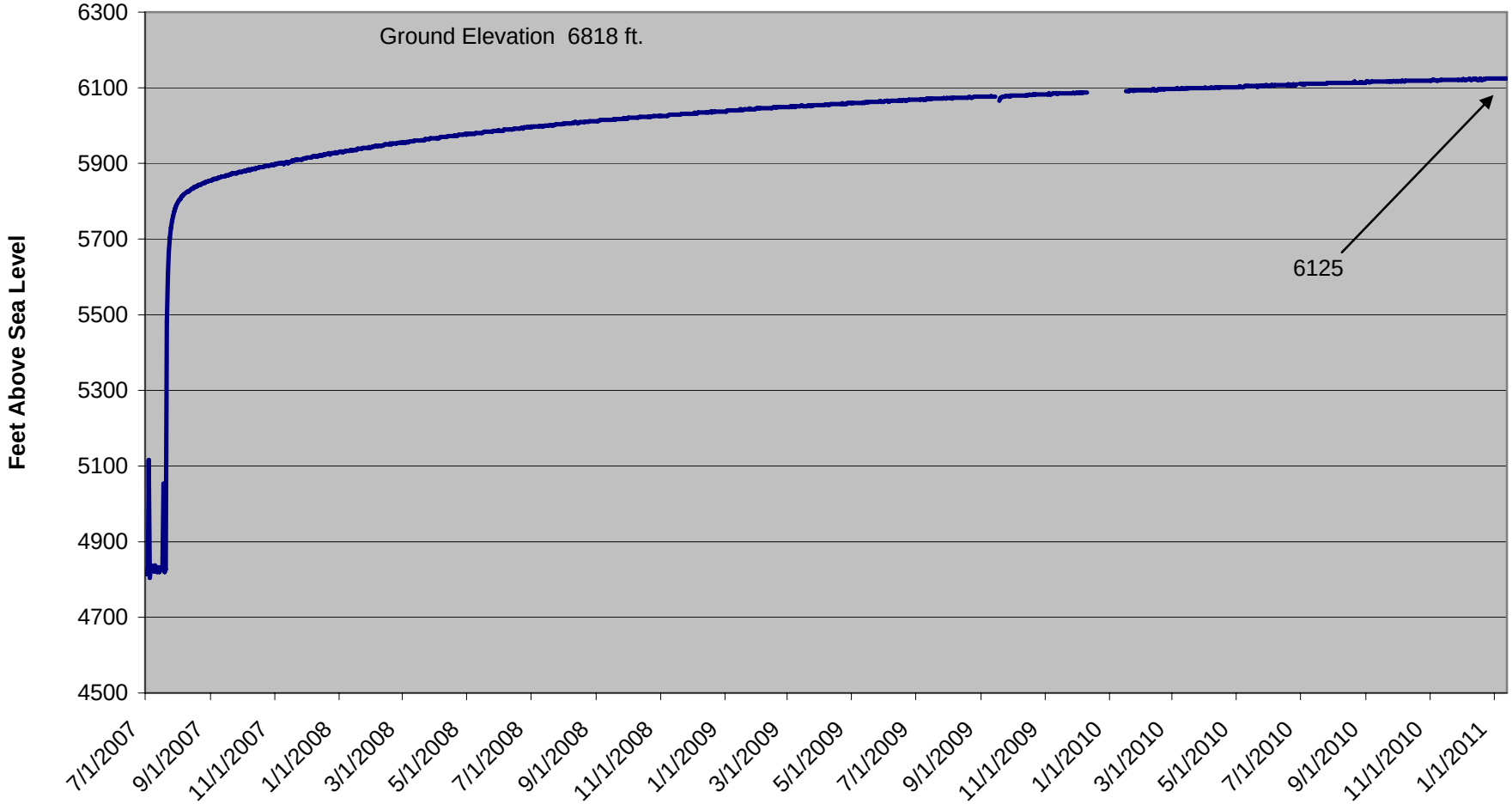
Rohr 04-14 CBM Well
Static Water Level
from 7/1/07 to 1/12/11
Well shut-in 7/20/07



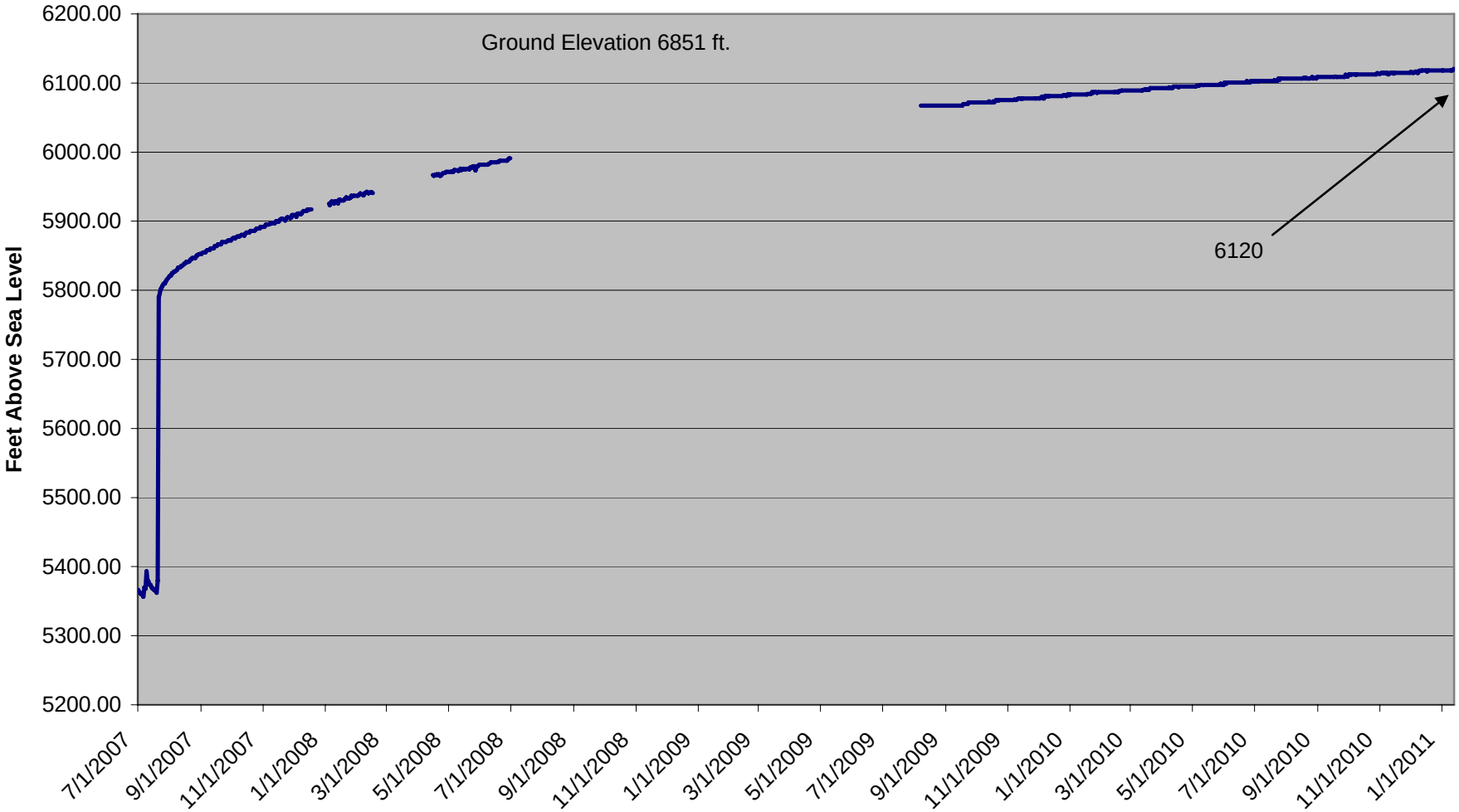
Rohr 08-01 CBM Well
Static Water Level
from 7/1/07 to 1/12/11
Well shut-in 7/20/07



Rohr 09-04 CBM Well
Static Water Level
from 7/1/07 to 1/12/11
Well shut-in 7/20/07

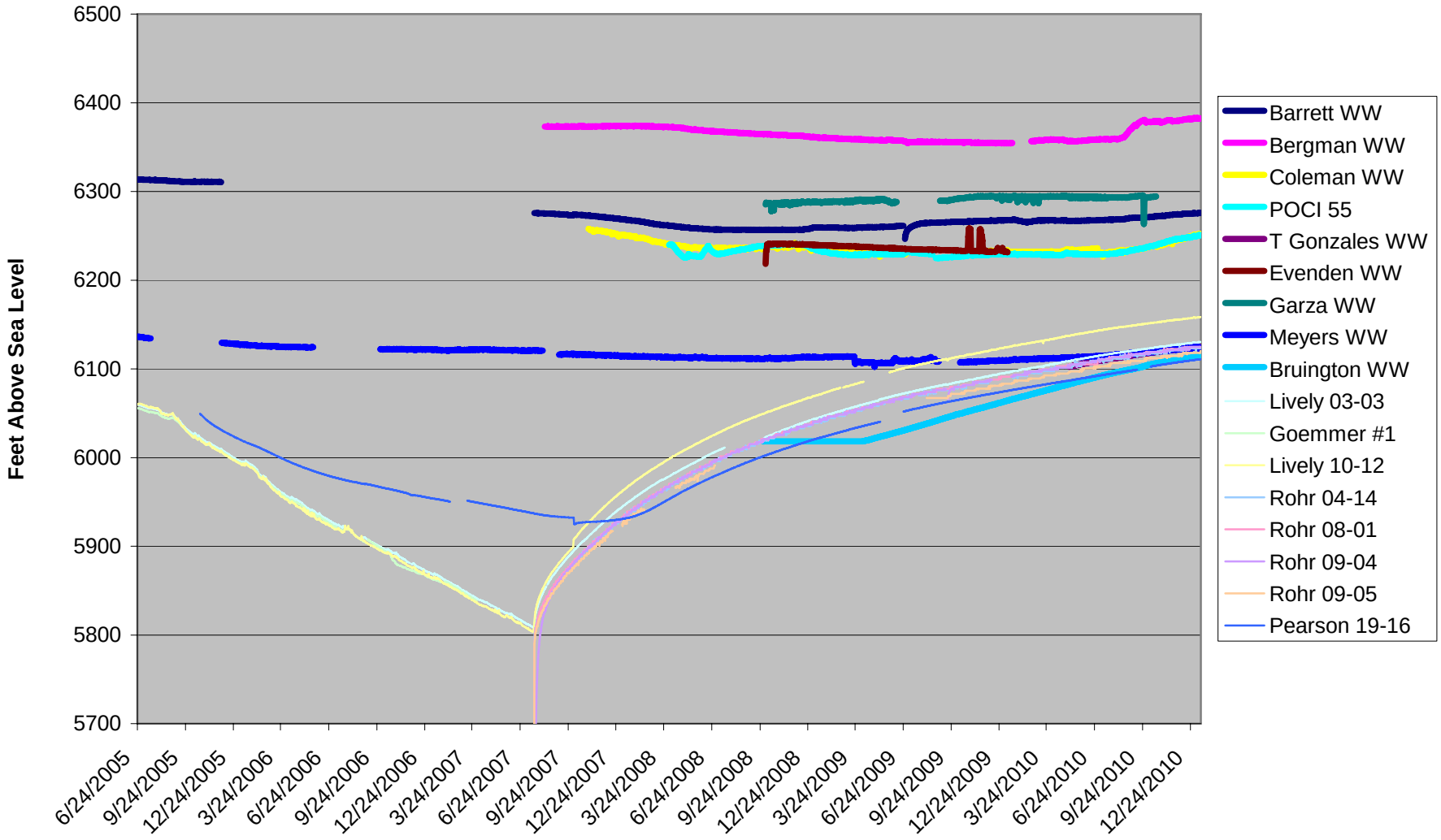


Rohr 09-05 CBM Well Static Water Level
from 7/1/07 to 1/12/11
Well shut-in 7/20/07



Attachment 4
Comparison of Fluid Levels in Production Wells and Private Wells

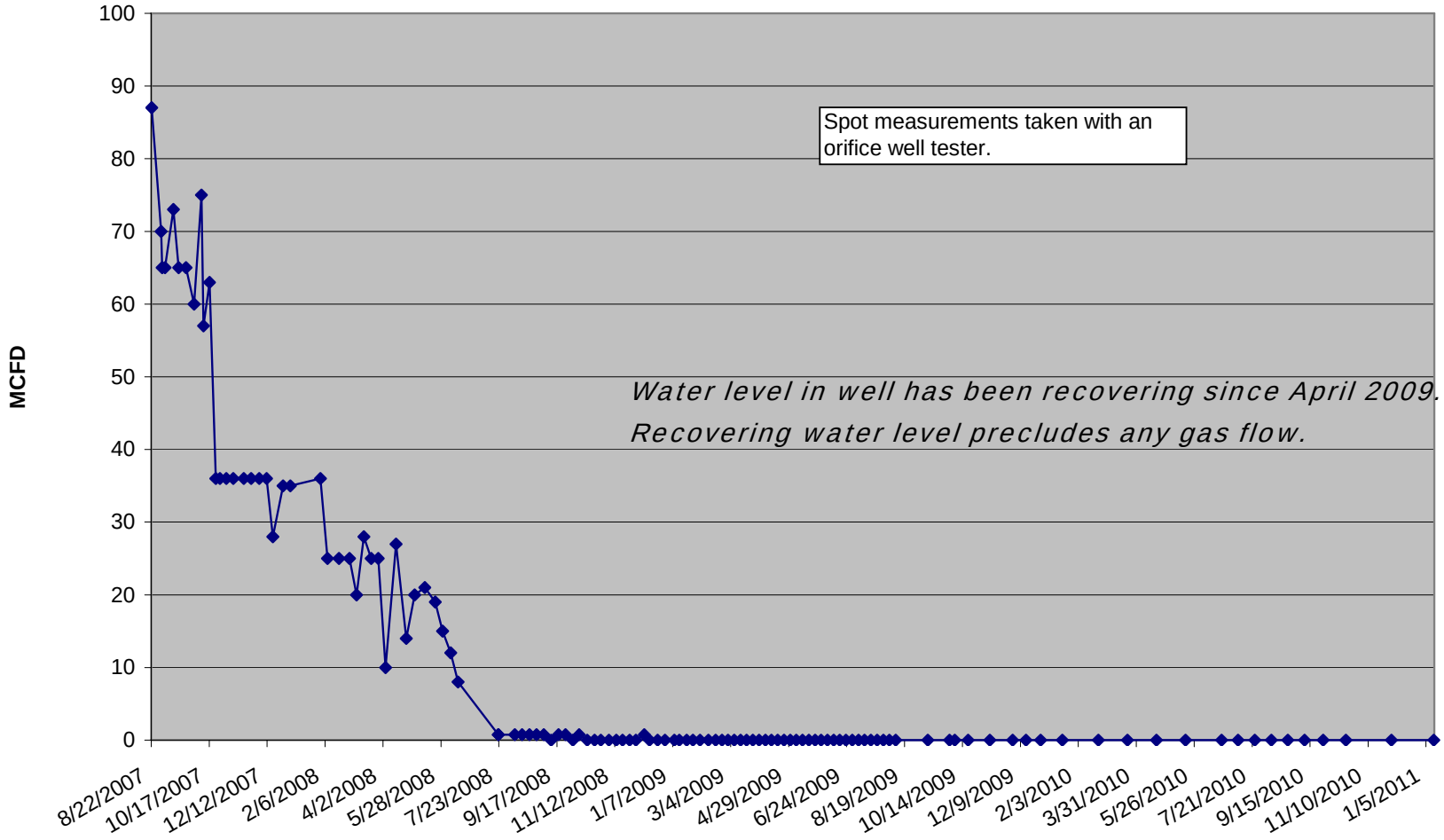
CBM and Domestic WW,
Water Levels from 6/24/05 to 1/12/11



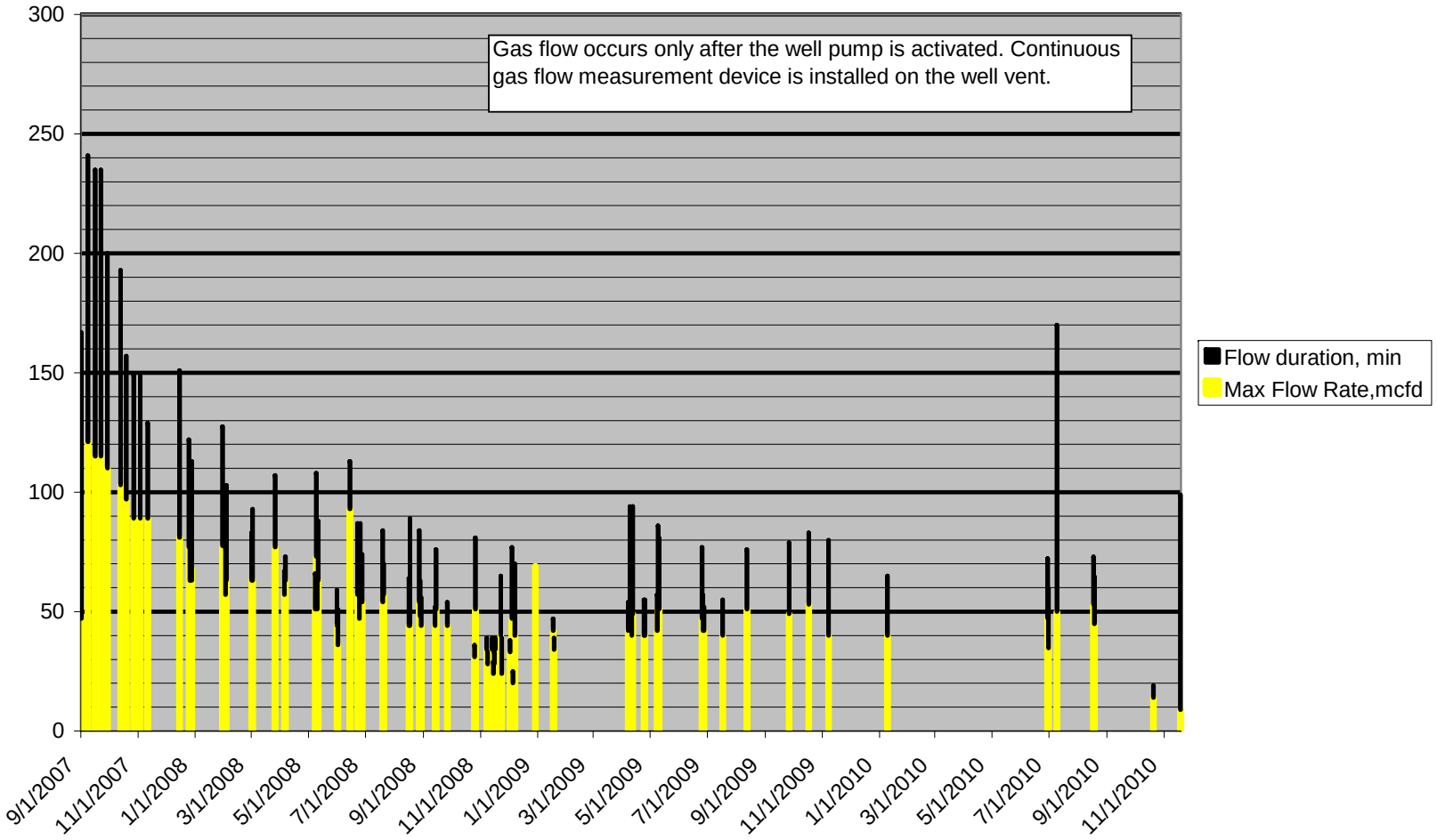
Summary of Production Well Water Levels and Private Well Water Levels						
Well Name	**Permit or API #**	**Ground Elevation (ft above mean sea level)**	**Depth of Pressure Sensor (ft)**	**Formation**	**General Location**	**Well Status**
Barrett	257994	6707	750	Poison Canyon	In mitigation ring	non-active domestic well
Bergman	244403	6690	400	Poison Canyon	In mitigation ring	non-active domestic well
Coleman	267694	6848	823	Poison Canyon	In mitigation ring	active domestic well
Meyers	248862	6575	600	Raton	Outside 1 mile radius of mitigation ring	non-active domestic well
POCI 55	275819	6690	595	Poison Canyon	In mitigation ring	monitor well
Bruington	210526	6335	320	Vermejo	City Ranch near outcrop	non-active domestic well
Evenden	221465	6712	514	Vermejo-Trinidad	Silver Spurs Ranch near outcrop	active domestic well
Garza	206886	6536	288	Trinidad	Silver Spurs Ranch near outcrop	active domestic well
Lively 03-03	222539	6647	995	Trinidad	Within 1 mile radius of mitigation ring	Exploratory O&G well converted to water well (non-active)
Lively 10-12	55-06150	6825	1480	Vermejo	In mitigation ring	CBM monitor well
Goemmer #1	16861-F	6826	995	Trinidad	In mitigation ring	Exploratory O&G well converted to water well (non-active)
Rohr 04-14	55-06291	6741	2186	Vermejo-Trinidad	Within 1 mile radius of mitigation ring	Shut-in CBM well
Rohr 08-01	55-06292	6820	2365	Vermejo-Trinidad	Within 1 mile radius of mitigation ring	Shut-in CBM well
Rohr 09-04	55-06290	6818	2273	Vermejo-Trinidad	Within 1 mile radius of mitigation ring	Shut-in CBM well
Rohr 09-05	55-06289	6851	2285	Vermejo-Trinidad	Within 1 mile radius of mitigation ring	Shut-in CBM well
Pearson 19-16	55-06293	6557	1000	Vermejo	Outside 1 mile radius of mitigation ring	CBM monitor well

Attachment 5
Gas Flow Measurements at Bruington, Coleman, Angely, Bounds, and Smith

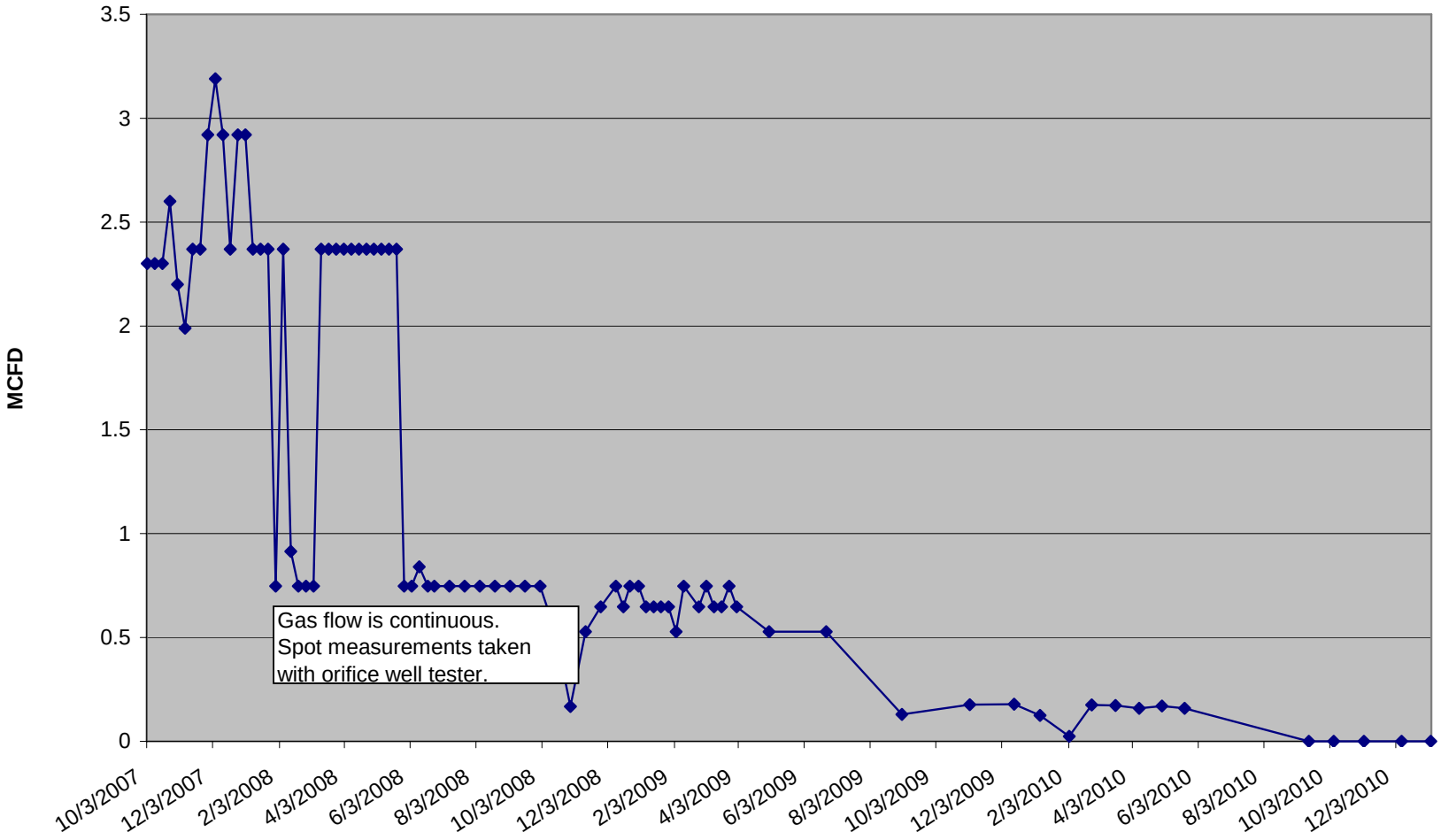
Bruington WW # 210526 Measured Gas Flow
from 8/22/07 to 1/12/11



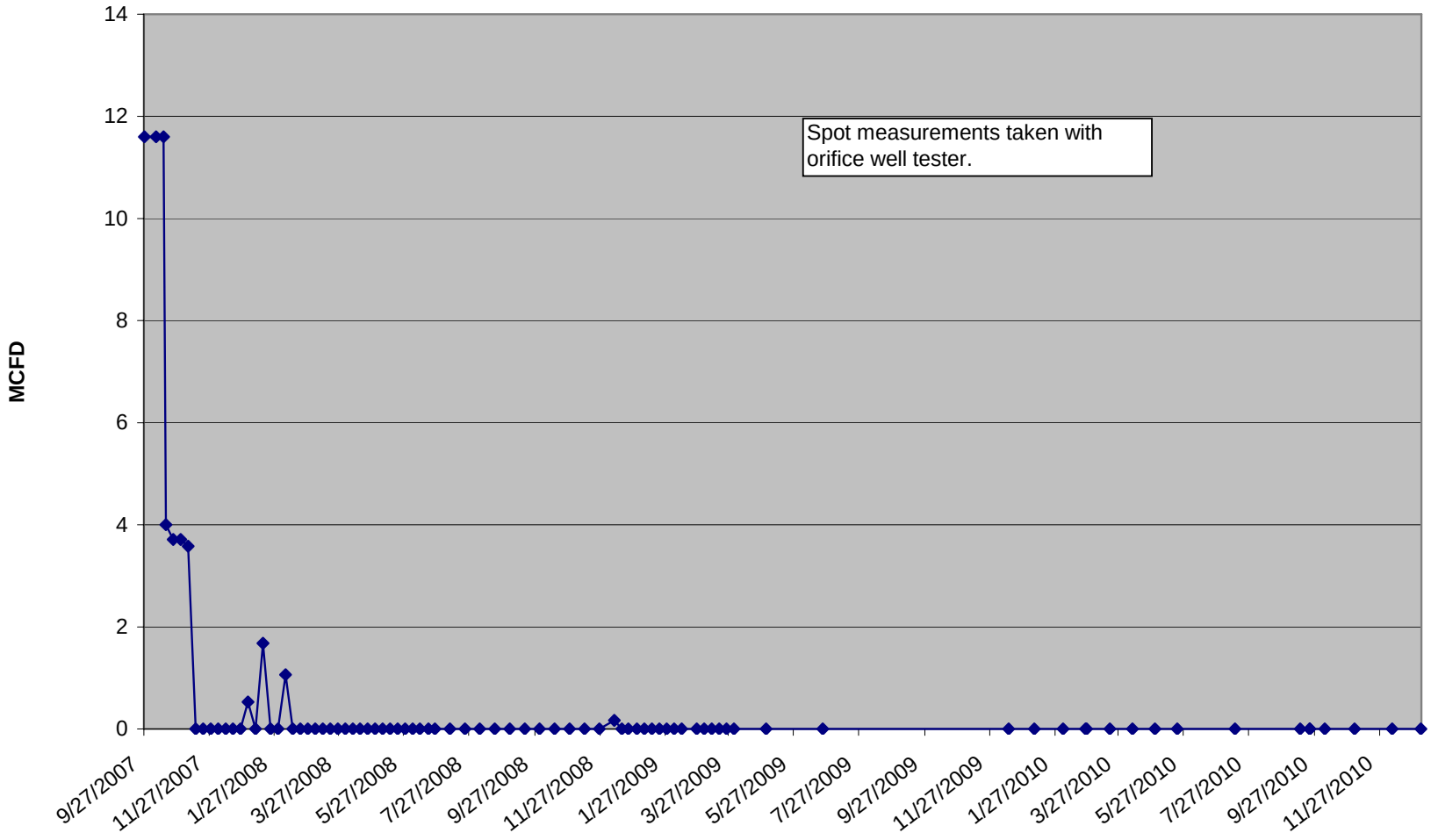
**Coleman WW #267294 Measured Gas Flow
from 9/1/07 to 11/18/10**



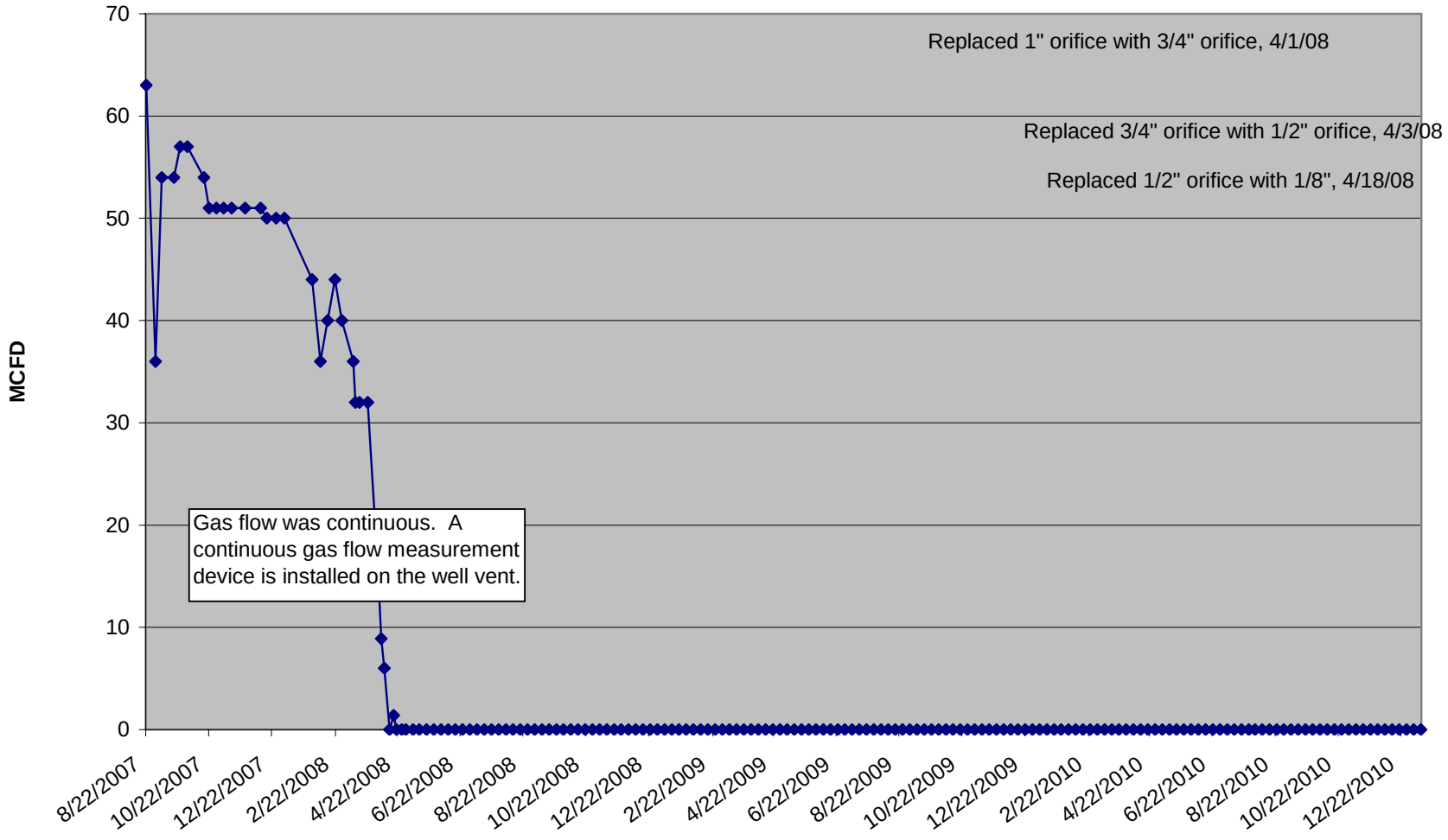
**Bounds WW #181278 Measured Gas Flow
from 10/3/07 to 1/4/11**



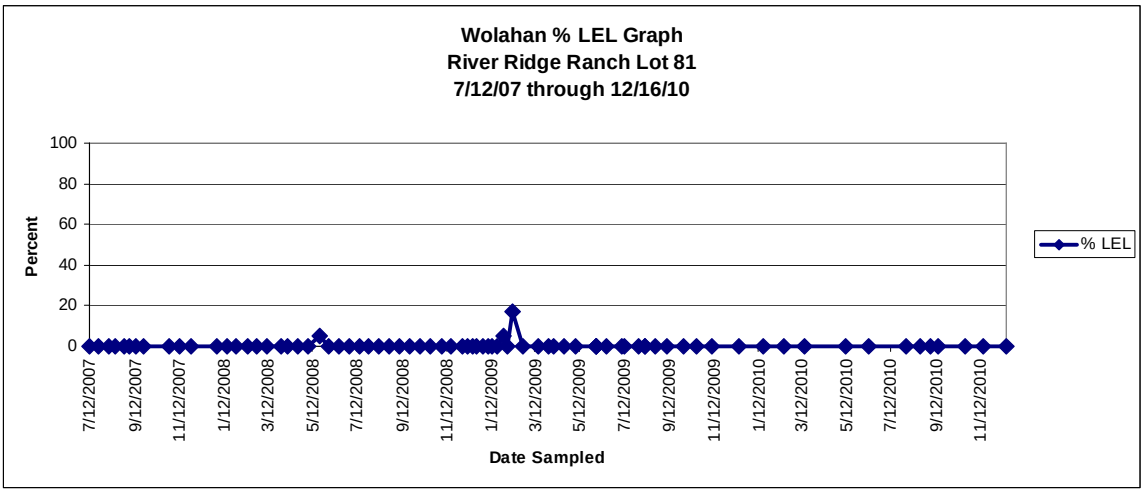
**Angely WW # 238689 Measured Gas Flow
from 9/27/07 to 1/4/11**

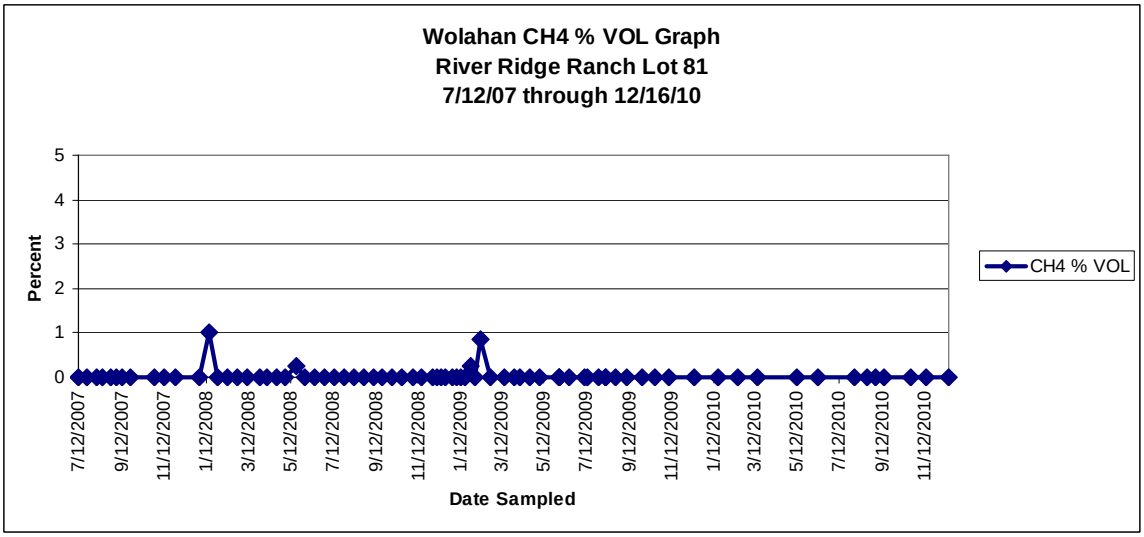


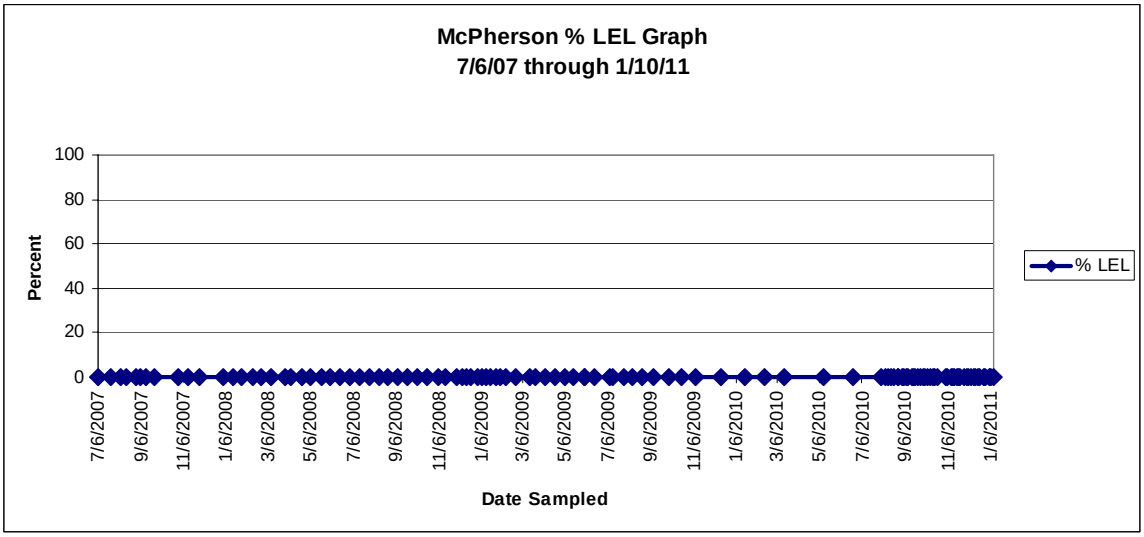
**Smith WW # 239657 Measured Gas Flow
from 8/22/07 to 1/10/12**

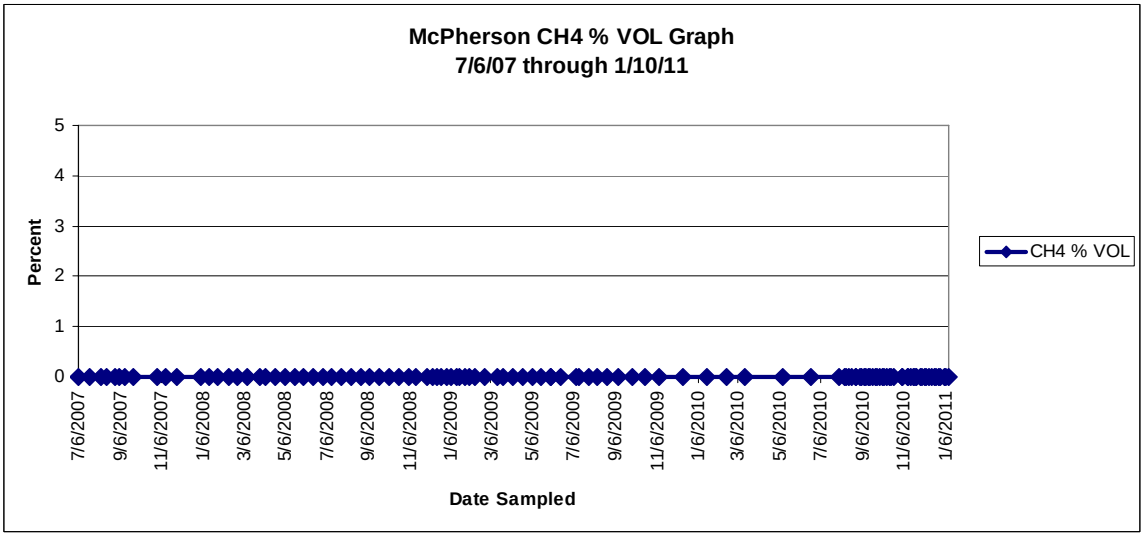


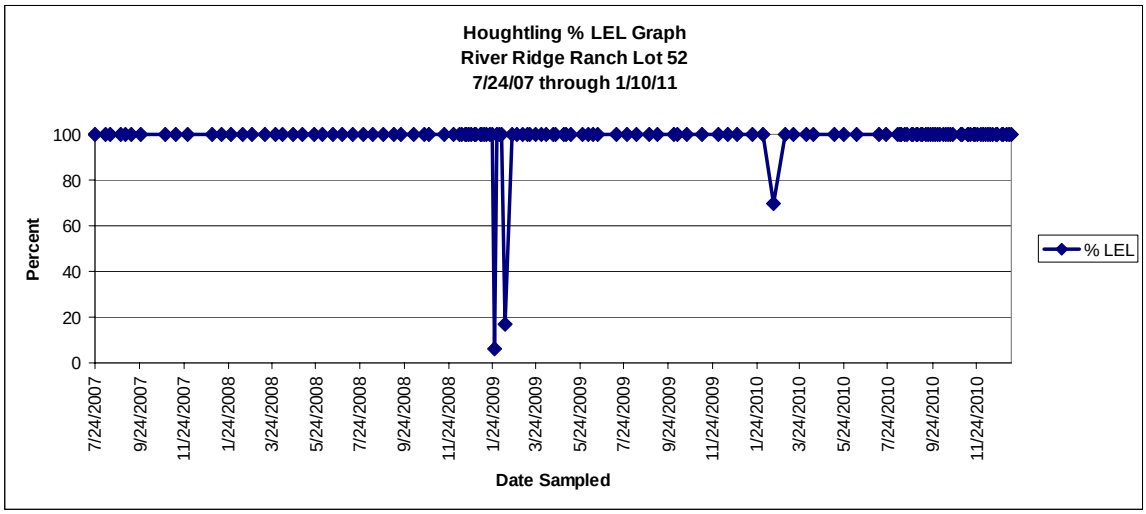
Attachment 6
Gas Concentrations in
Private Water Wells near the Mitigation Project

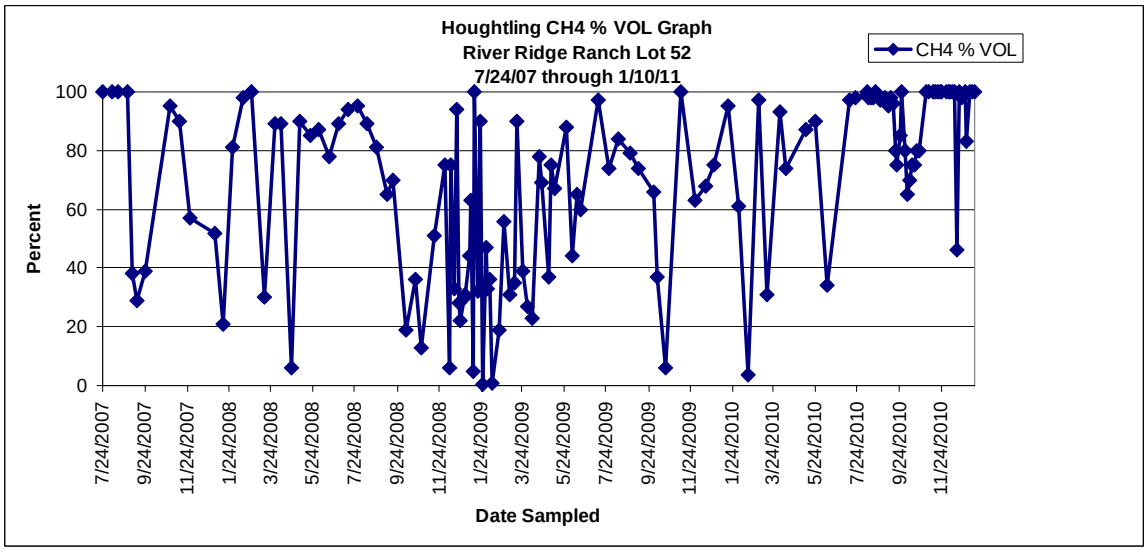

Wolahan % LEL Graph
River Ridge Ranch Lot 81
7/12/07 through 12/16/10
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
% LEL

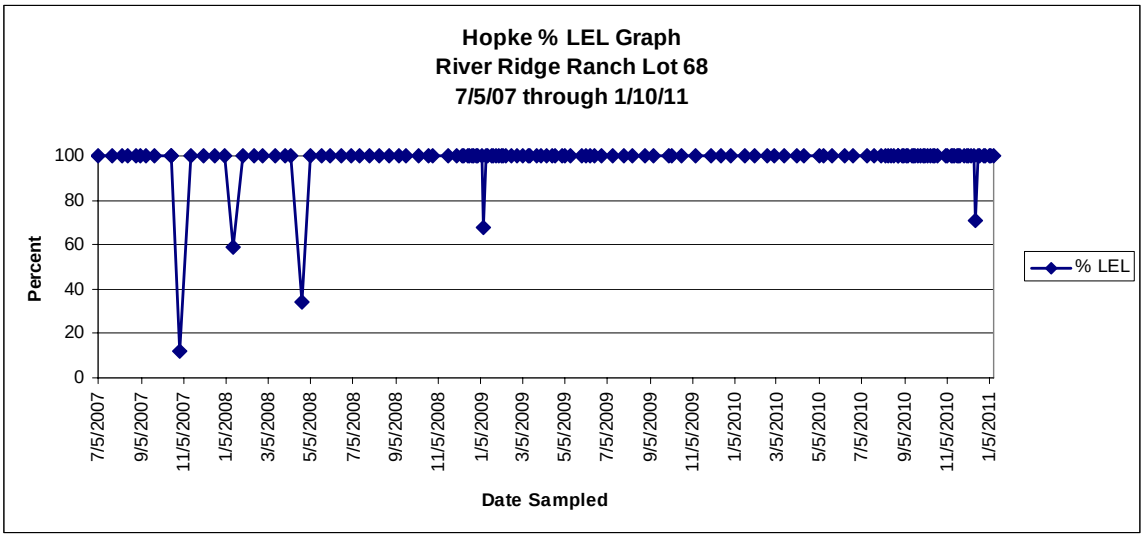

Wolahan CH4 % VOL Graph
River Ridge Ranch Lot 81
7/12/07 through 12/16/10
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
CH4 % VOL

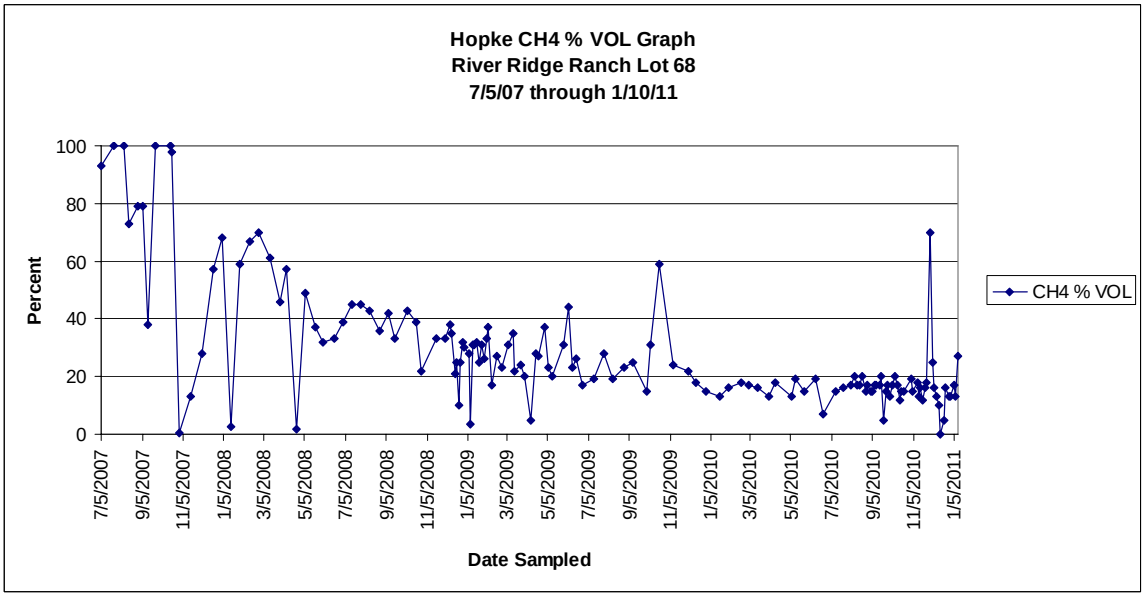

McPherson % LEL Graph
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
Date Sampled
% LEL

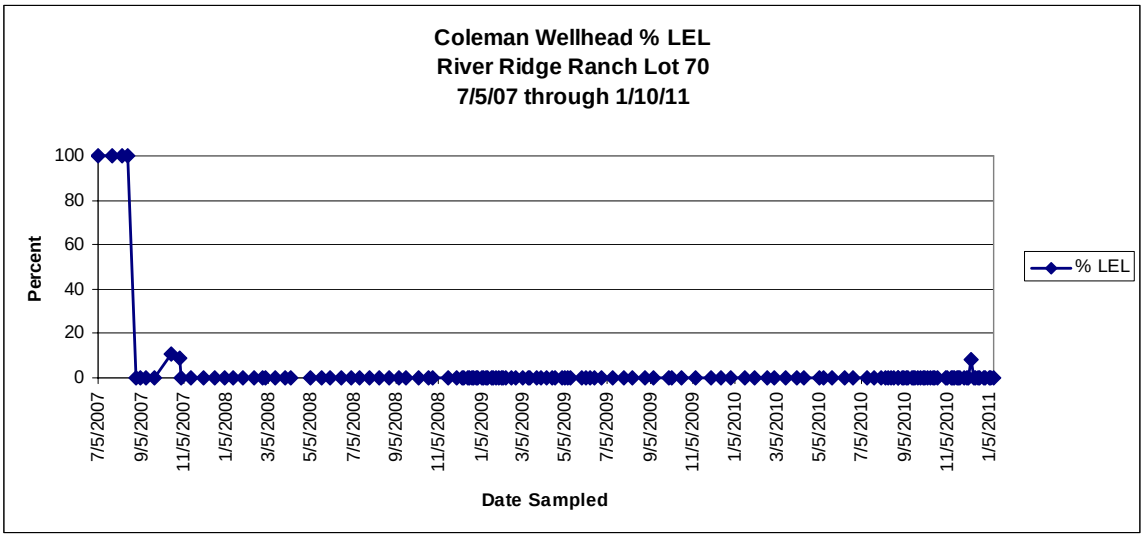

McPherson CH4 % VOL Graph
7/6/07 through 1/10/11
Percent
5
4
3
2
1
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
Date Sampled
CH4 % VOL

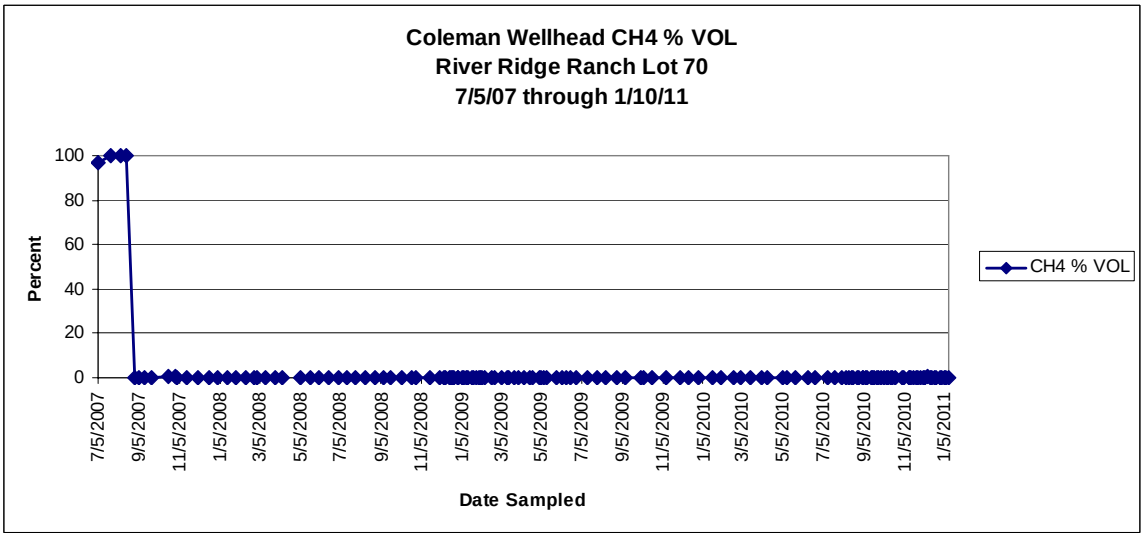

Houghtling % LEL Graph
River Ridge Ranch Lot 52
7/24/07 through 1/10/11
Percent
Date Sampled
% LEL
0
20
40
60
80
100
7/24/2007
9/24/2007
11/24/2007
1/24/2008
3/24/2008
5/24/2008
7/24/2008
9/24/2008
11/24/2008
1/24/2009
3/24/2009
5/24/2009
7/24/2009
9/24/2009
11/24/2009
1/24/2010
3/24/2010
5/24/2010
7/24/2010
9/24/2010
11/24/2010

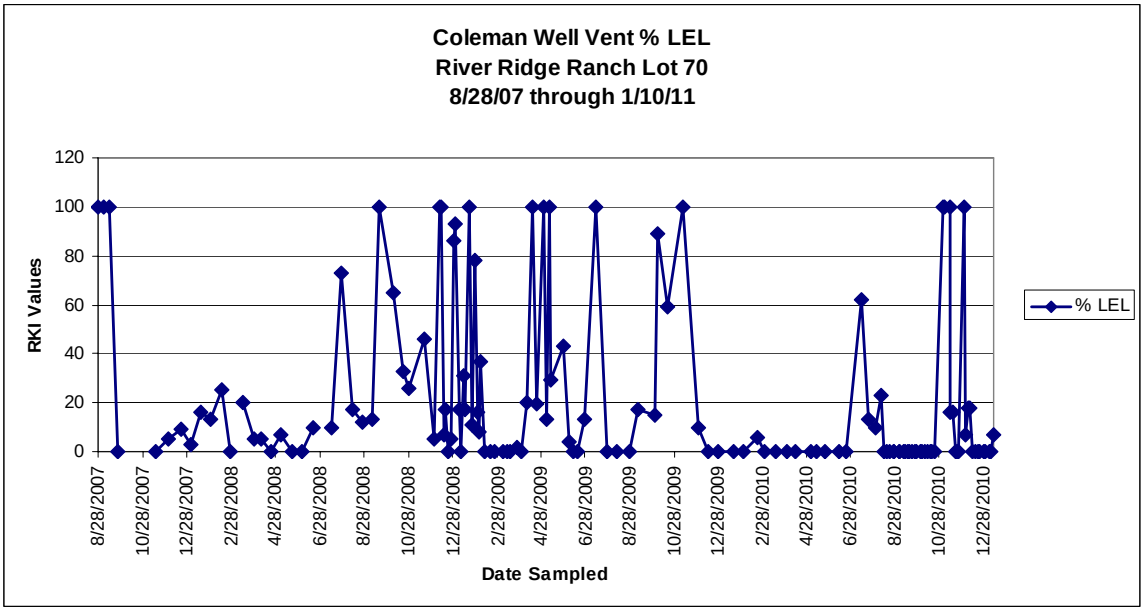

Houghtling CH4 % VOL Graph
River Ridge Ranch Lot 52
7/24/07 through 1/10/11
Percent
Date Sampled
CH4 % VOL
0
20
40
60
80
100
7/24/2007
9/24/2007
11/24/2007
1/24/2008
3/24/2008
5/24/2008
7/24/2008
9/24/2008
11/24/2008
1/24/2009
3/24/2009
5/24/2009
7/24/2009
9/24/2009
11/24/2009
1/24/2010
3/24/2010
5/24/2010
7/24/2010
9/24/2010
11/24/2010

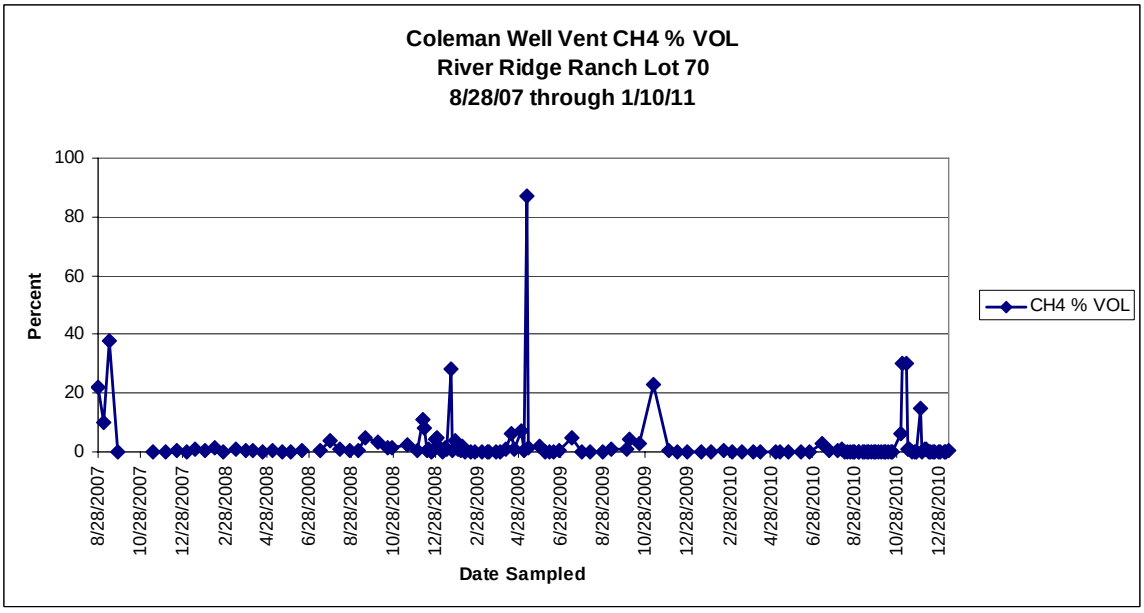

Hopke % LEL Graph
River Ridge Ranch Lot 68
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
Date Sampled
% LEL

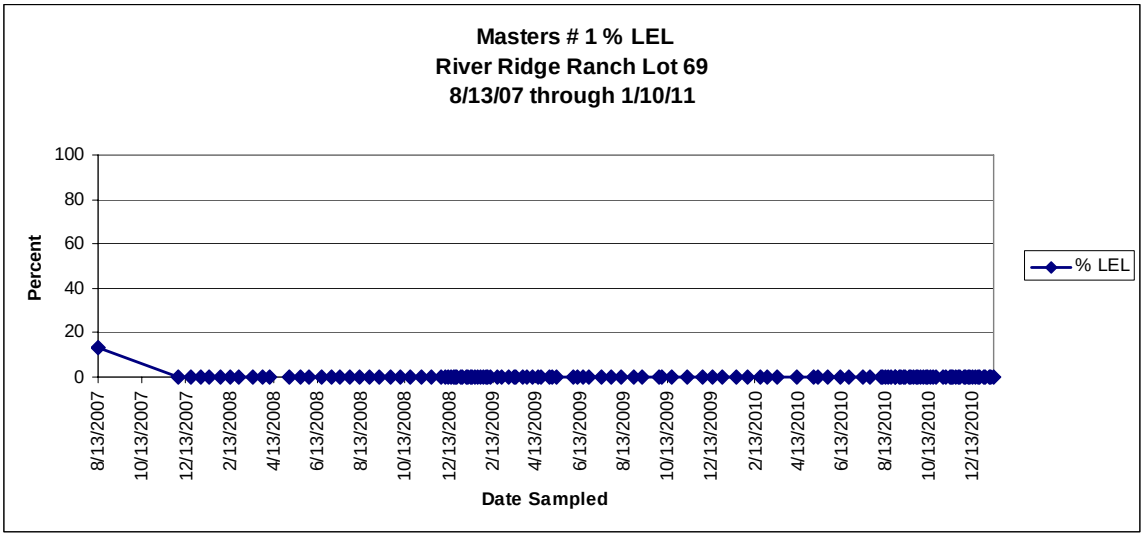

Hopke CH4 % VOL Graph
River Ridge Ranch Lot 68
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
Date Sampled
CH4 % VOL

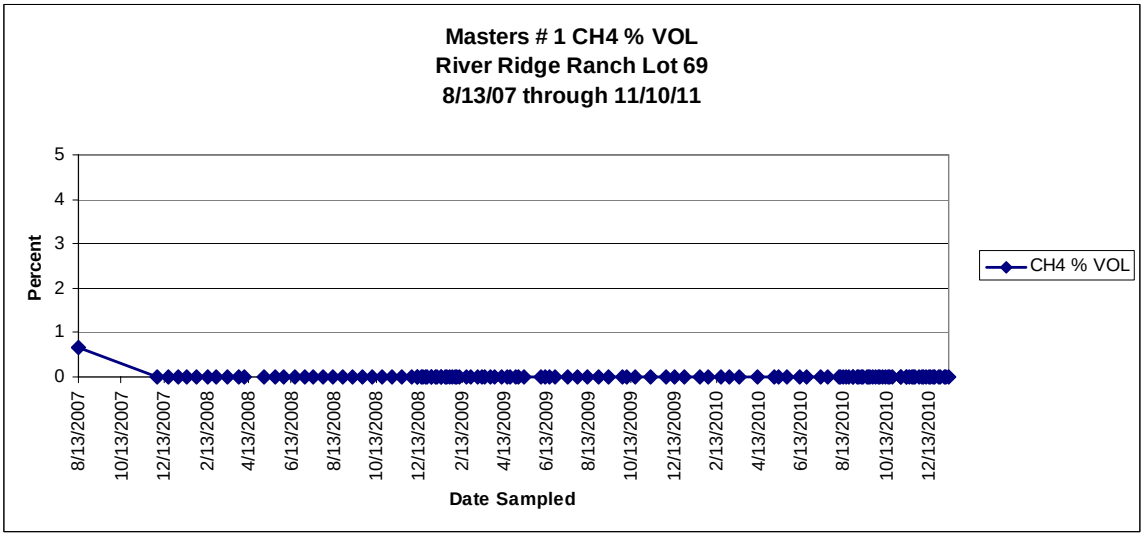

Coleman Wellhead % LEL
River Ridge Ranch Lot 70
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
Date Sampled
% LEL

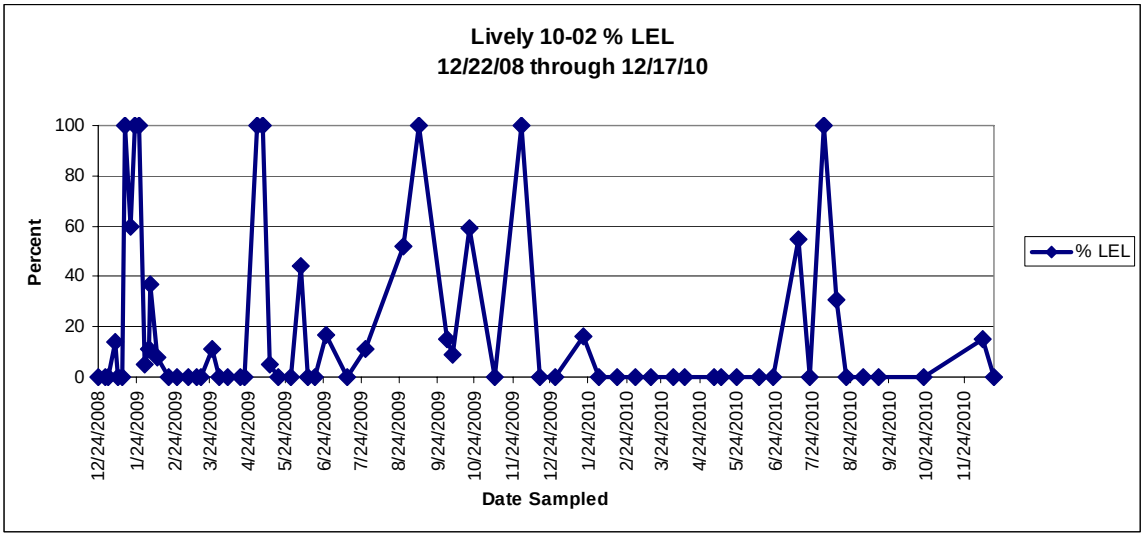

Coleman Wellhead CH4 % VOL
River Ridge Ranch Lot 70
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
7/5/2007
9/5/2007
11/5/2007
1/5/2008
3/5/2008
5/5/2008
7/5/2008
9/5/2008
11/5/2008
1/5/2009
3/5/2009
5/5/2009
7/5/2009
9/5/2009
11/5/2009
1/5/2010
3/5/2010
5/5/2010
7/5/2010
9/5/2010
11/5/2010
1/5/2011
Date Sampled
CH4 % VOL

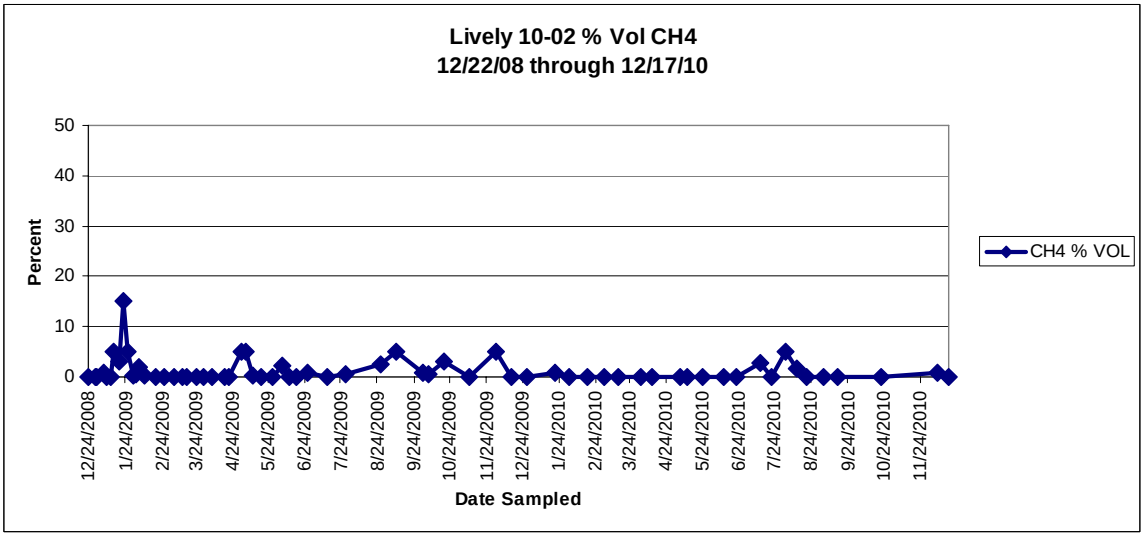

Coleman Well Vent % LEL
River Ridge Ranch Lot 70
8/28/07 through 1/10/11
RKI Values
120
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
% LEL

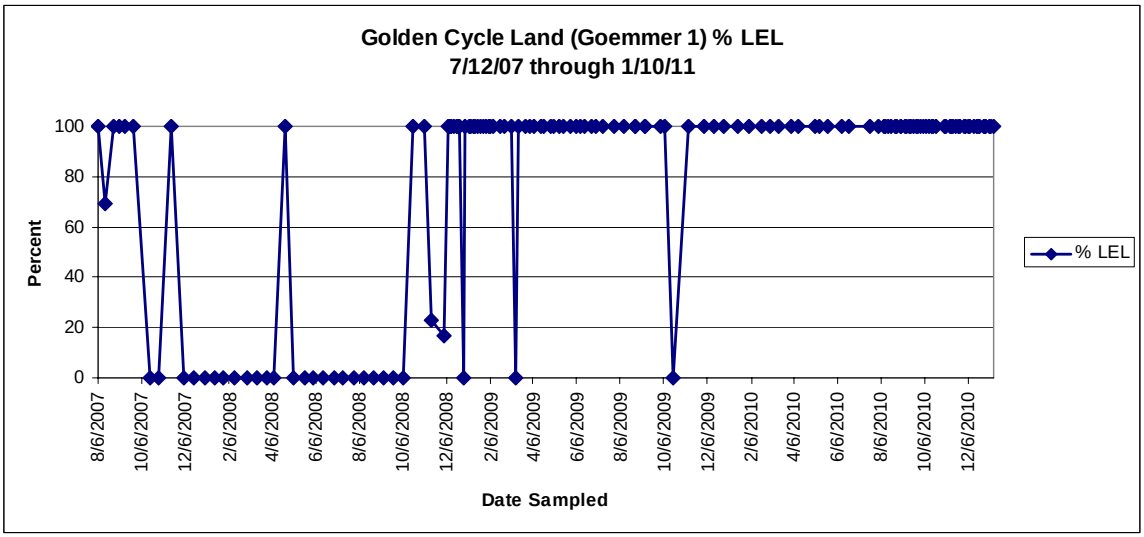

Coleman Well Vent CH4 % VOL
River Ridge Ranch Lot 70
8/28/07 through 1/10/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
CH4 % VOL

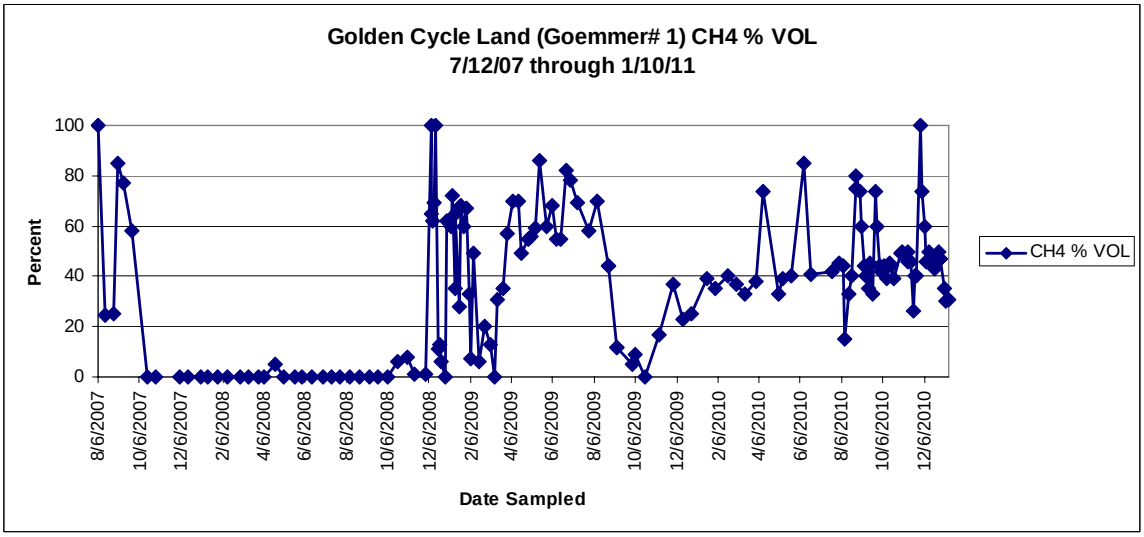

Masters # 1 % LEL
River Ridge Ranch Lot 69
8/13/07 through 1/10/11
Percent
100
80
60
40
20
0
8/13/2007
10/13/2007
12/13/2007
2/13/2008
4/13/2008
6/13/2008
8/13/2008
10/13/2008
12/13/2008
2/13/2009
4/13/2009
6/13/2009
8/13/2009
10/13/2009
12/13/2009
2/13/2010
4/13/2010
6/13/2010
8/13/2010
10/13/2010
12/13/2010
Date Sampled
% LEL

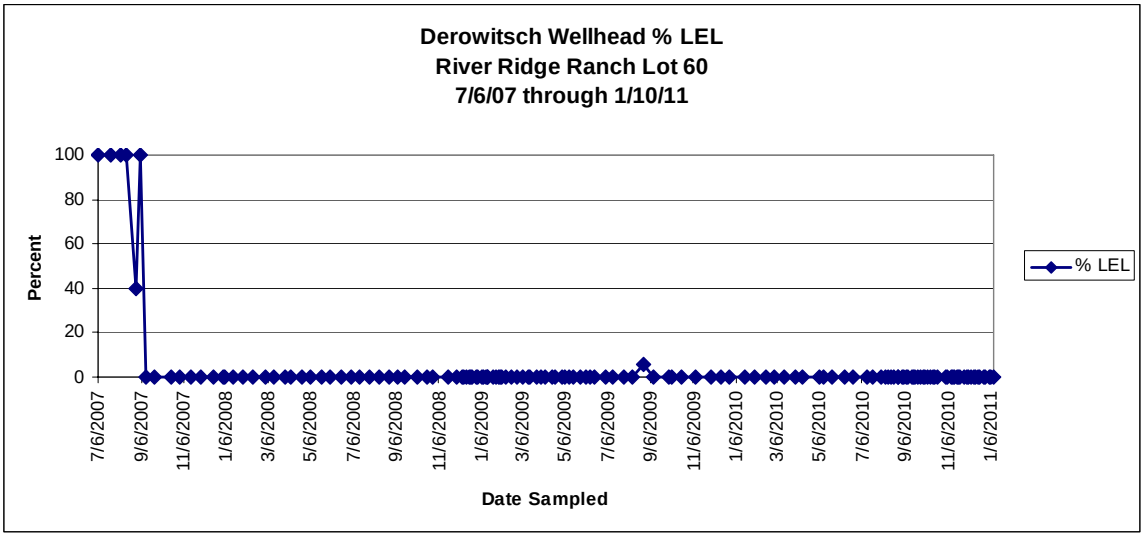

Masters # 1 CH4 % VOL
River Ridge Ranch Lot 69
8/13/07 through 11/10/11
Percent
5
4
3
2
1
0
8/13/2007
10/13/2007
12/13/2007
2/13/2008
4/13/2008
6/13/2008
8/13/2008
10/13/2008
12/13/2008
2/13/2009
4/13/2009
6/13/2009
8/13/2009
10/13/2009
12/13/2009
2/13/2010
4/13/2010
6/13/2010
8/13/2010
10/13/2010
12/13/2010
Date Sampled
CH4 % VOL

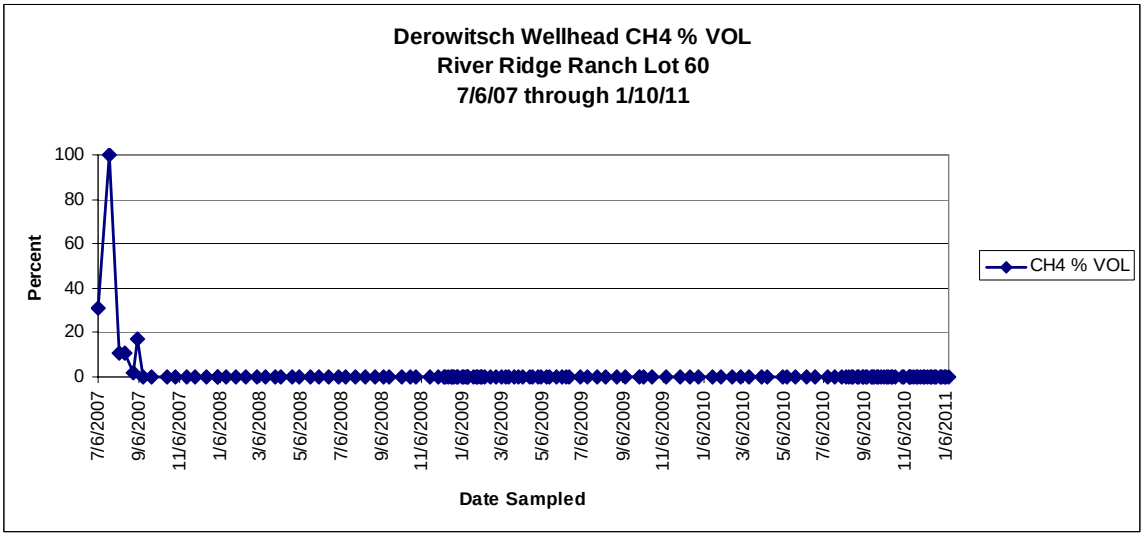

Lively 10-02 % LEL
12/22/08 through 12/17/10
Percent
100
80
60
40
20
0
12/24/2008
1/24/2009
2/24/2009
3/24/2009
4/24/2009
5/24/2009
6/24/2009
7/24/2009
8/24/2009
9/24/2009
10/24/2009
11/24/2009
12/24/2009
1/24/2010
2/24/2010
3/24/2010
4/24/2010
5/24/2010
6/24/2010
7/24/2010
8/24/2010
9/24/2010
10/24/2010
11/24/2010
Date Sampled
% LEL

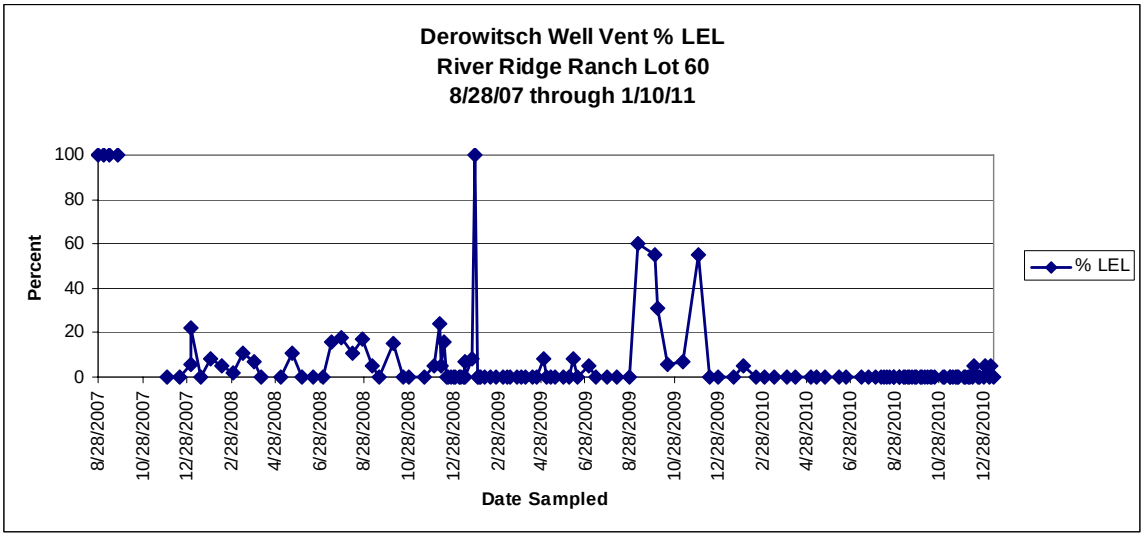

Lively 10-02 % Vol CH4
12/22/08 through 12/17/10
Percent
50
40
30
20
10
0
12/24/2008
1/24/2009
2/24/2009
3/24/2009
4/24/2009
5/24/2009
6/24/2009
7/24/2009
8/24/2009
9/24/2009
10/24/2009
11/24/2009
12/24/2009
1/24/2010
2/24/2010
3/24/2010
4/24/2010
5/24/2010
6/24/2010
7/24/2010
8/24/2010
9/24/2010
10/24/2010
11/24/2010
Date Sampled
CH4 % VOL

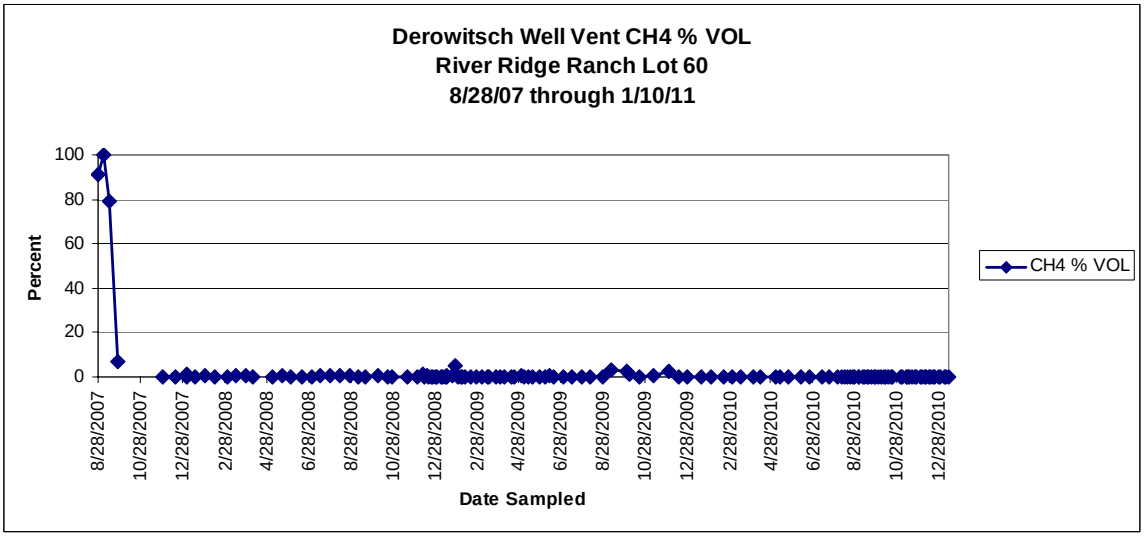

Golden Cycle Land (Goemmer 1) % LEL
7/12/07 through 1/10/11
Percent
100
80
60
40
20
0
8/6/2007
10/6/2007
12/6/2007
2/6/2008
4/6/2008
6/6/2008
8/6/2008
10/6/2008
12/6/2008
2/6/2009
4/6/2009
6/6/2009
8/6/2009
10/6/2009
12/6/2009
2/6/2010
4/6/2010
6/6/2010
8/6/2010
10/6/2010
12/6/2010
Date Sampled
% LEL

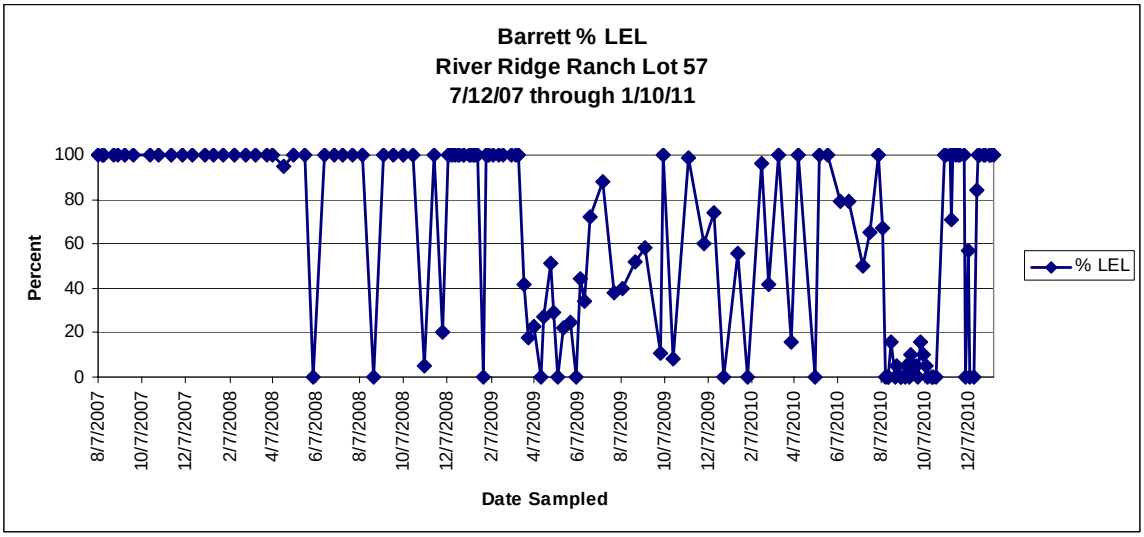

Golden Cycle Land (Goemmer# 1) CH4 % VOL
7/12/07 through 1/10/11
Percent
100
80
60
40
20
0
8/6/2007
10/6/2007
12/6/2007
2/6/2008
4/6/2008
6/6/2008
8/6/2008
10/6/2008
12/6/2008
2/6/2009
4/6/2009
6/6/2009
8/6/2009
10/6/2009
12/6/2009
2/6/2010
4/6/2010
6/6/2010
8/6/2010
10/6/2010
12/6/2010
Date Sampled
CH4 % VOL

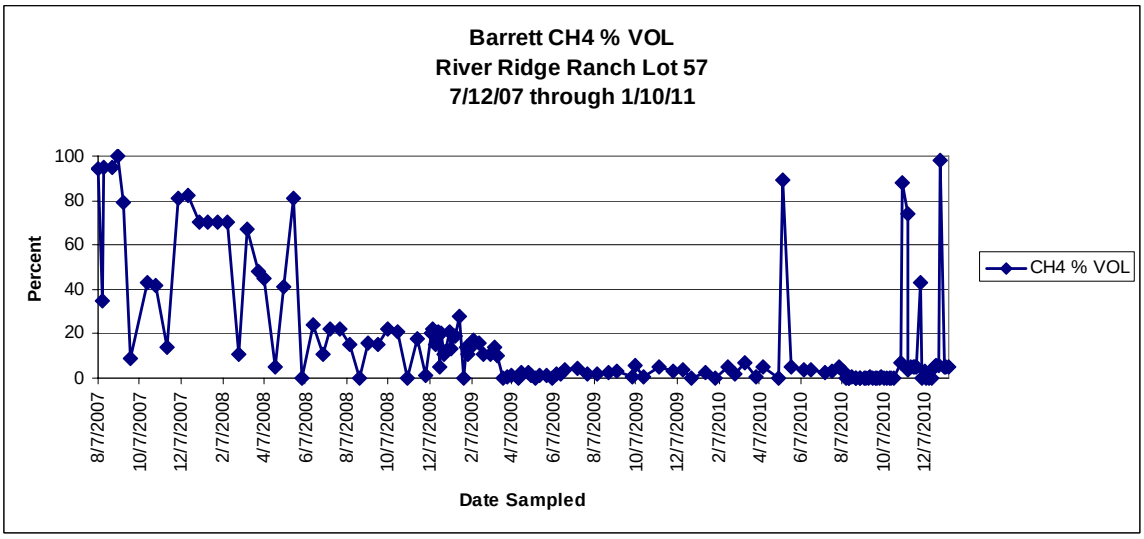

Derowitsch Wellhead % LEL
River Ridge Ranch Lot 60
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
Date Sampled
% LEL

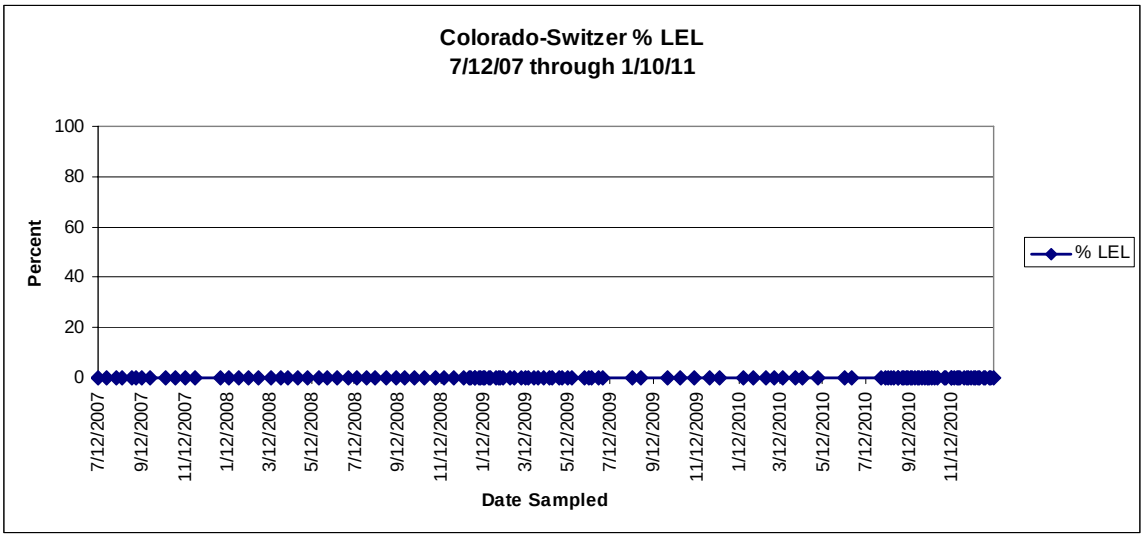

Derowitsch Wellhead CH4 % VOL
River Ridge Ranch Lot 60
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
1/6/2011
Date Sampled
CH4 % VOL

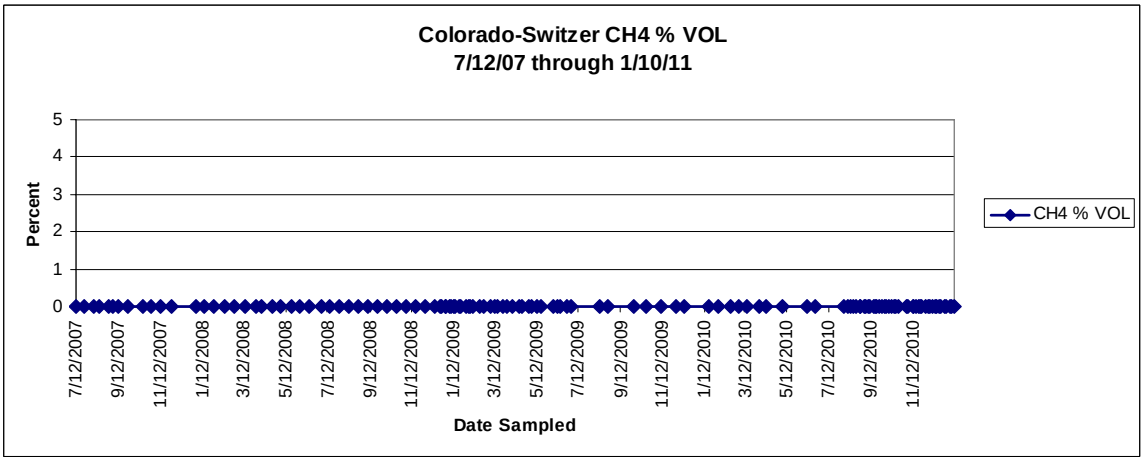

Derowitsch Well Vent % LEL
River Ridge Ranch Lot 60
8/28/07 through 1/10/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
% LEL

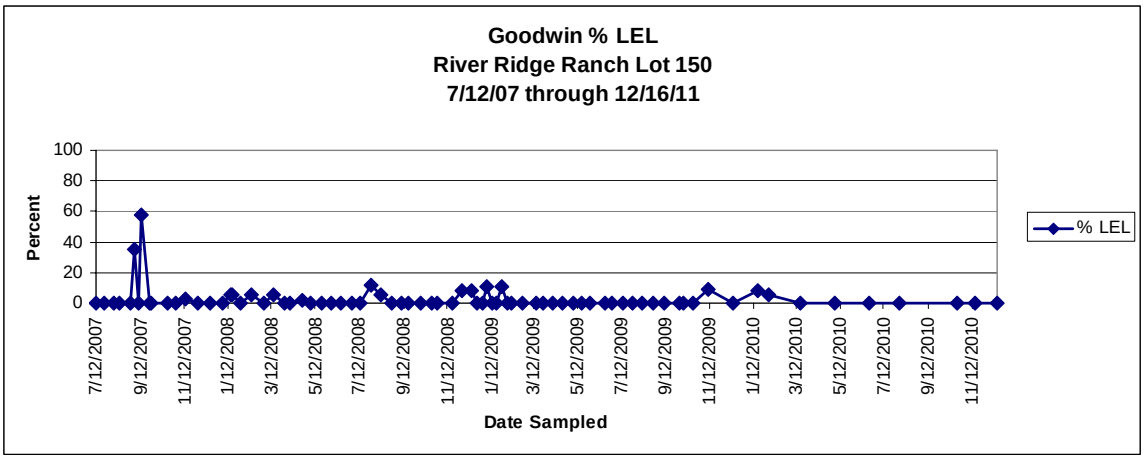

Derowitsch Well Vent CH4 % VOL
River Ridge Ranch Lot 60
8/28/07 through 1/10/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
CH4 % VOL

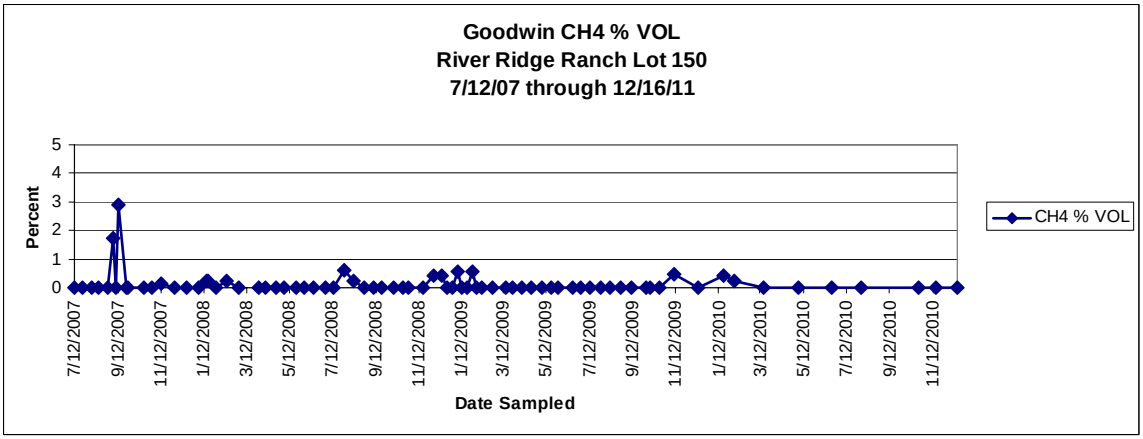

Barrett % LEL
River Ridge Ranch Lot 57
7/12/07 through 1/10/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
Date Sampled
% LEL

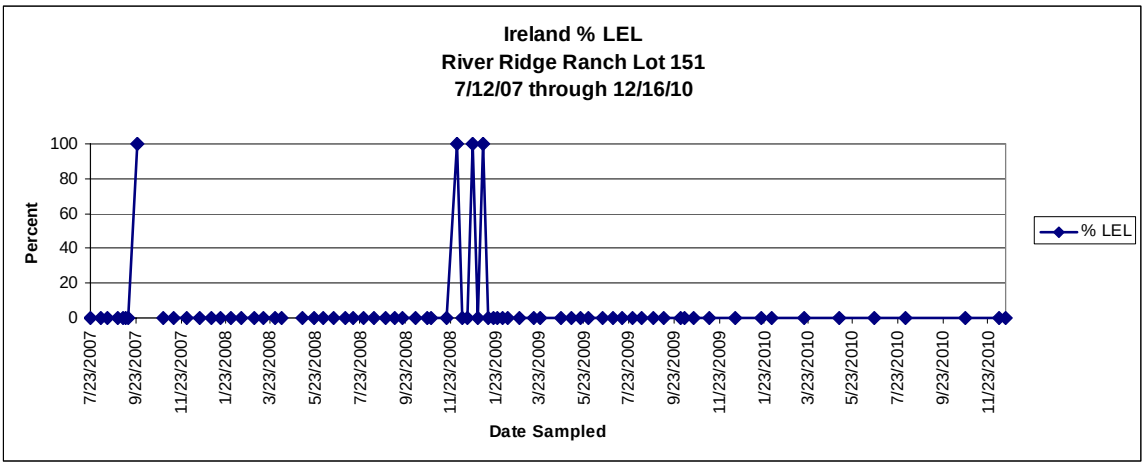

Barrett CH4 % VOL
River Ridge Ranch Lot 57
7/12/07 through 1/10/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
Date Sampled
CH4 % VOL

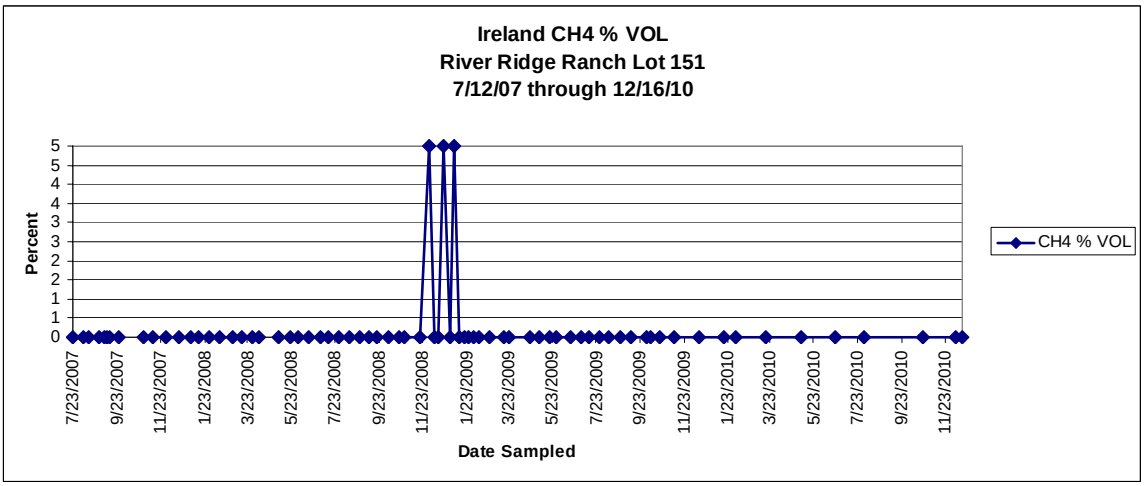

Colorado-Switzer % LEL
7/12/07 through 1/10/11
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
% LEL

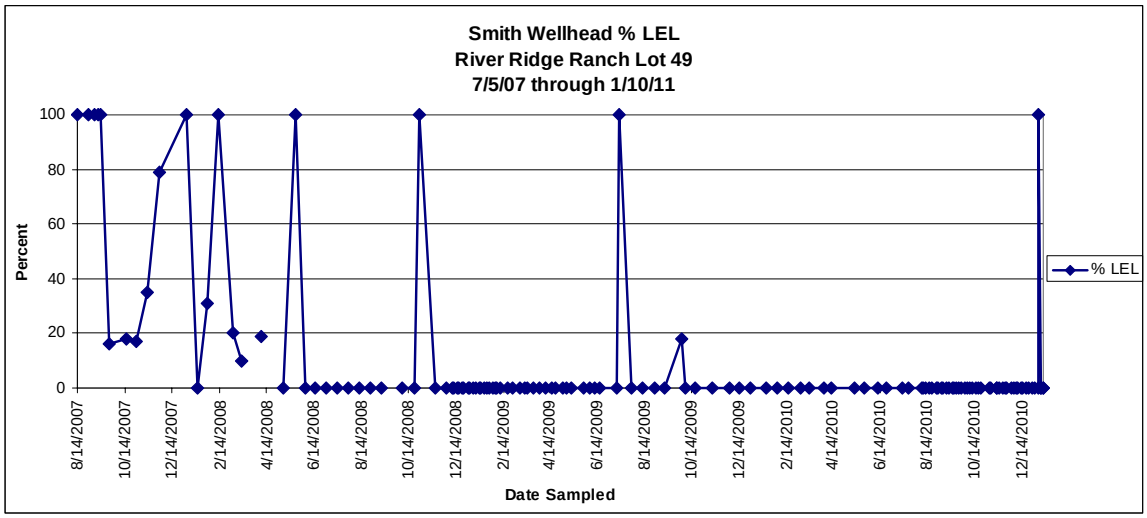

Colorado-Switzer CH4 % VOL
7/12/07 through 1/10/11
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
CH4 % VOL

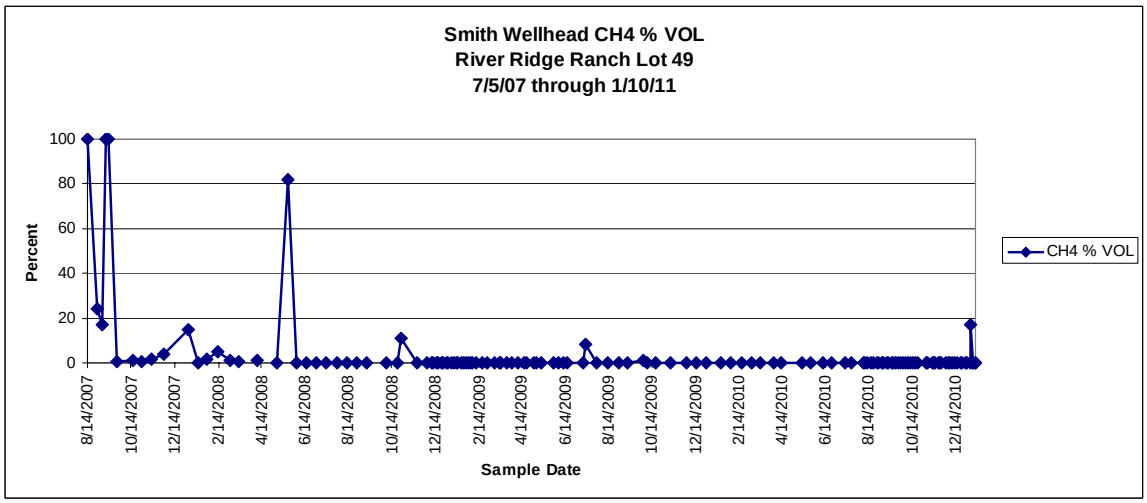

Goodwin % LEL
River Ridge Ranch Lot 150
7/12/07 through 12/16/11
Percent
100
80
60
40
20
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
% LEL

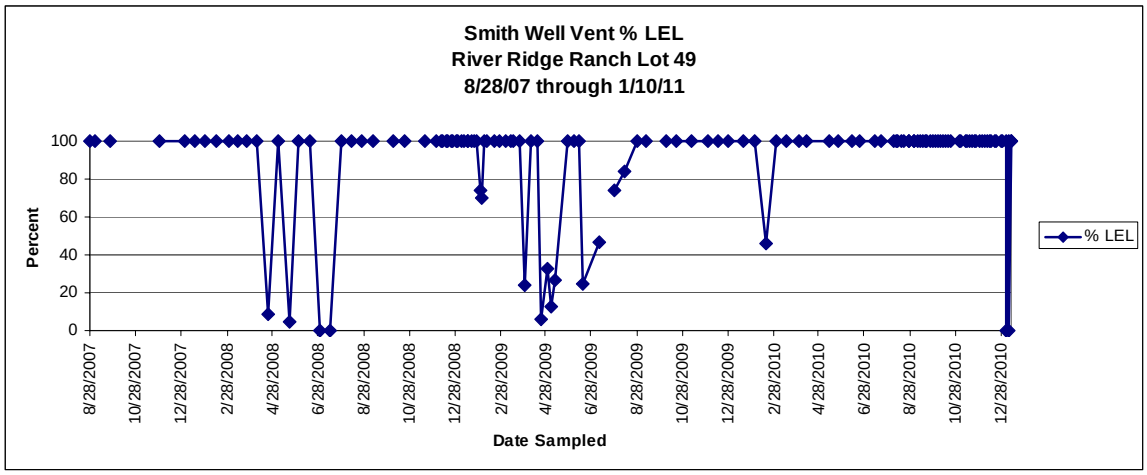

Goodwin CH4 % VOL
River Ridge Ranch Lot 150
7/12/07 through 12/16/11
Percent
5
4
3
2
1
0
7/12/2007
9/12/2007
11/12/2007
1/12/2008
3/12/2008
5/12/2008
7/12/2008
9/12/2008
11/12/2008
1/12/2009
3/12/2009
5/12/2009
7/12/2009
9/12/2009
11/12/2009
1/12/2010
3/12/2010
5/12/2010
7/12/2010
9/12/2010
11/12/2010
Date Sampled
CH4 % VOL

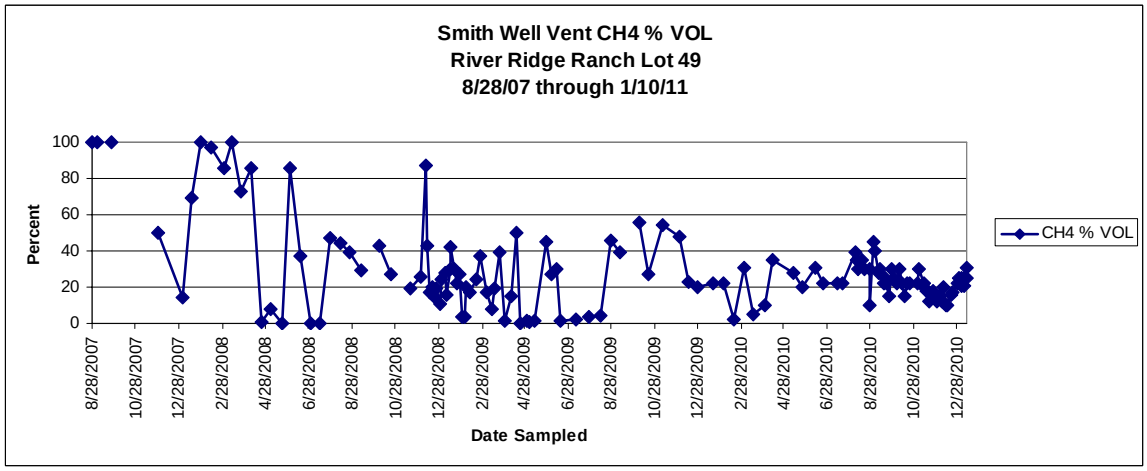

Ireland % LEL
River Ridge Ranch Lot 151
7/12/07 through 12/16/10
Percent
100
80
60
40
20
0
7/23/2007
9/23/2007
11/23/2007
1/23/2008
3/23/2008
5/23/2008
7/23/2008
9/23/2008
11/23/2008
1/23/2009
3/23/2009
5/23/2009
7/23/2009
9/23/2009
11/23/2009
1/23/2010
3/23/2010
5/23/2010
7/23/2010
9/23/2010
11/23/2010
Date Sampled
% LEL

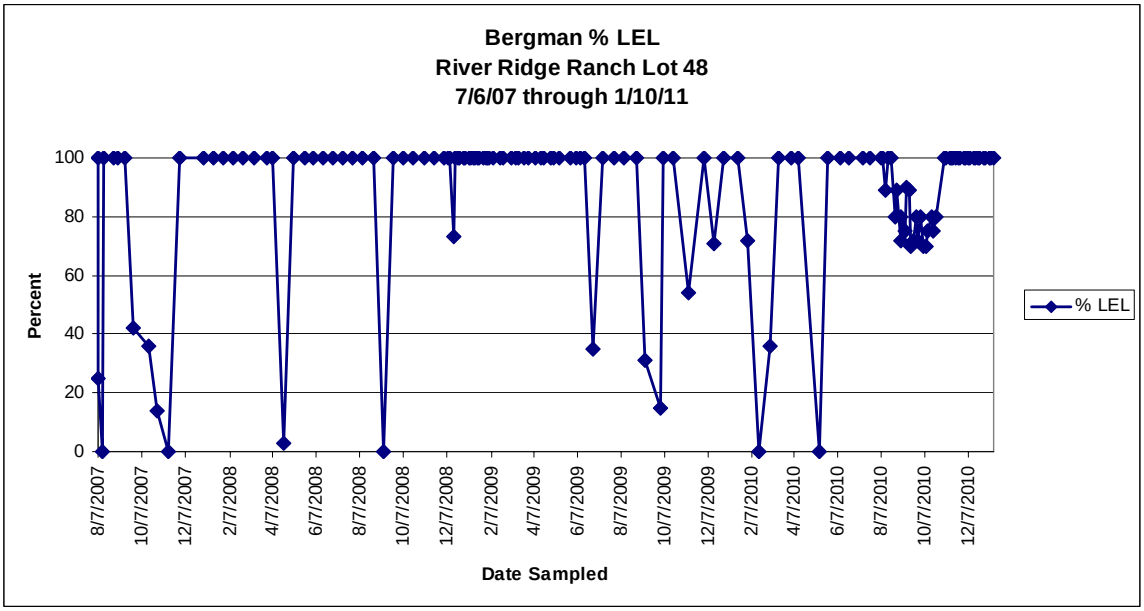

Ireland CH4 % VOL
River Ridge Ranch Lot 151
7/12/07 through 12/16/10
Percent
5
5
4
4
3
3
2
2
1
1
0
7/23/2007
9/23/2007
11/23/2007
1/23/2008
3/23/2008
5/23/2008
7/23/2008
9/23/2008
11/23/2008
1/23/2009
3/23/2009
5/23/2009
7/23/2009
9/23/2009
11/23/2009
1/23/2010
3/23/2010
5/23/2010
7/23/2010
9/23/2010
11/23/2010
Date Sampled
CH4 % VOL

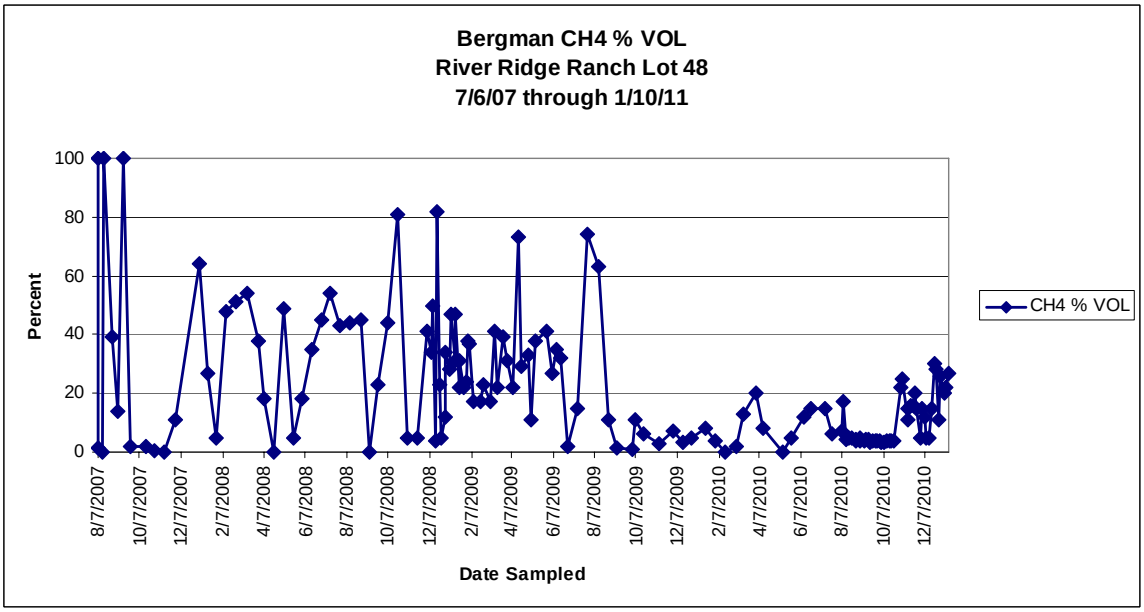

Smith Wellhead % LEL
River Ridge Ranch Lot 49
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
8/14/2007
10/14/2007
12/14/2007
2/14/2008
4/14/2008
6/14/2008
8/14/2008
10/14/2008
12/14/2008
2/14/2009
4/14/2009
6/14/2009
8/14/2009
10/14/2009
12/14/2009
2/14/2010
4/14/2010
6/14/2010
8/14/2010
10/14/2010
12/14/2010
Date Sampled
% LEL

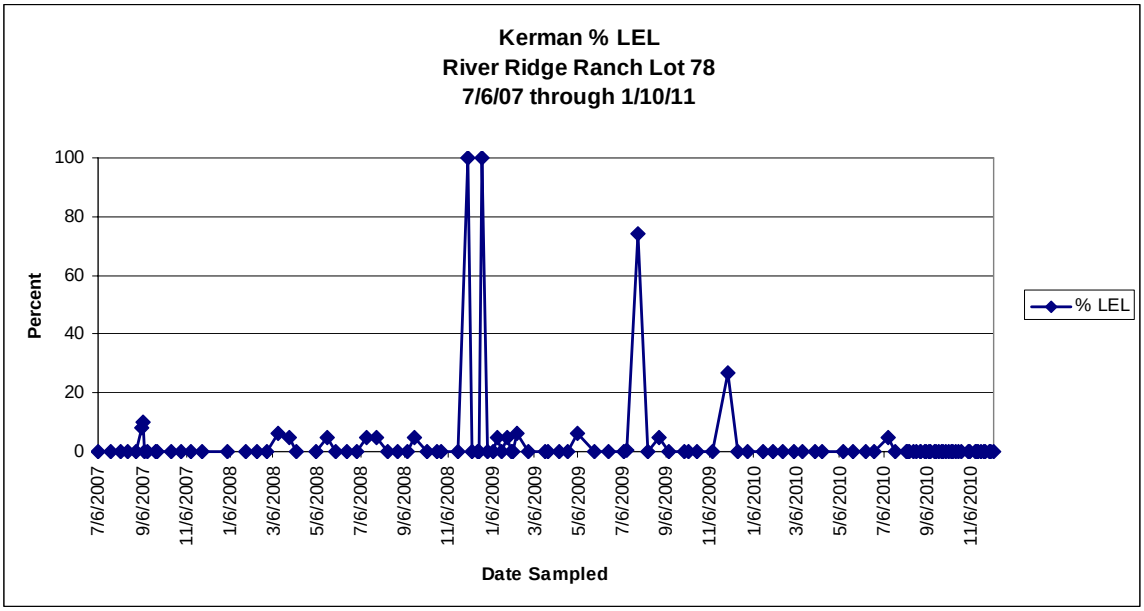

Smith Wellhead CH4 % VOL
River Ridge Ranch Lot 49
7/5/07 through 1/10/11
Percent
100
80
60
40
20
0
8/14/2007
10/14/2007
12/14/2007
2/14/2008
4/14/2008
6/14/2008
8/14/2008
10/14/2008
12/14/2008
2/14/2009
4/14/2009
6/14/2009
8/14/2009
10/14/2009
12/14/2009
2/14/2010
4/14/2010
6/14/2010
8/14/2010
10/14/2010
12/14/2010
Sample Date
CH4 % VOL

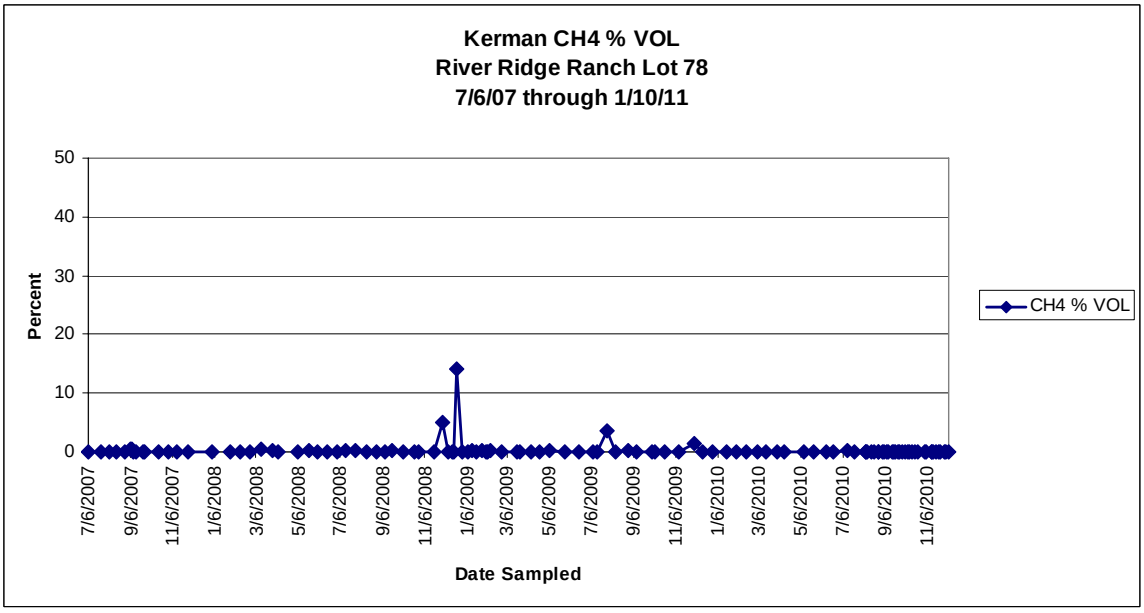

Smith Well Vent % LEL
River Ridge Ranch Lot 49
8/28/07 through 1/10/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
% LEL

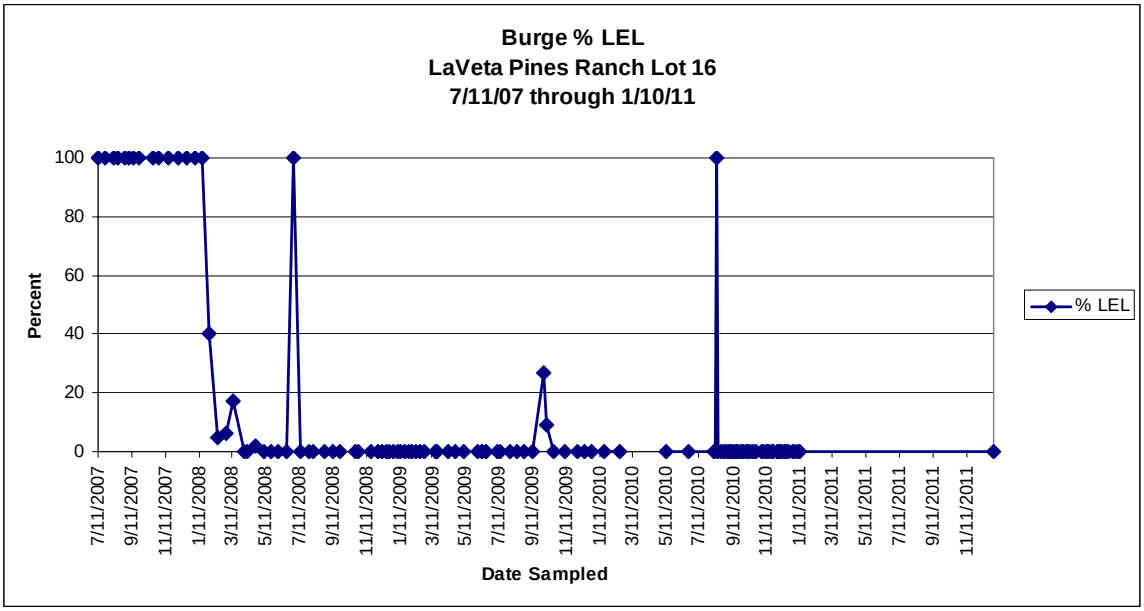

Smith Well Vent CH4 % VOL
River Ridge Ranch Lot 49
8/28/07 through 1/10/11
Percent
100
80
60
40
20
0
8/28/2007
10/28/2007
12/28/2007
2/28/2008
4/28/2008
6/28/2008
8/28/2008
10/28/2008
12/28/2008
2/28/2009
4/28/2009
6/28/2009
8/28/2009
10/28/2009
12/28/2009
2/28/2010
4/28/2010
6/28/2010
8/28/2010
10/28/2010
12/28/2010
Date Sampled
CH4 % VOL

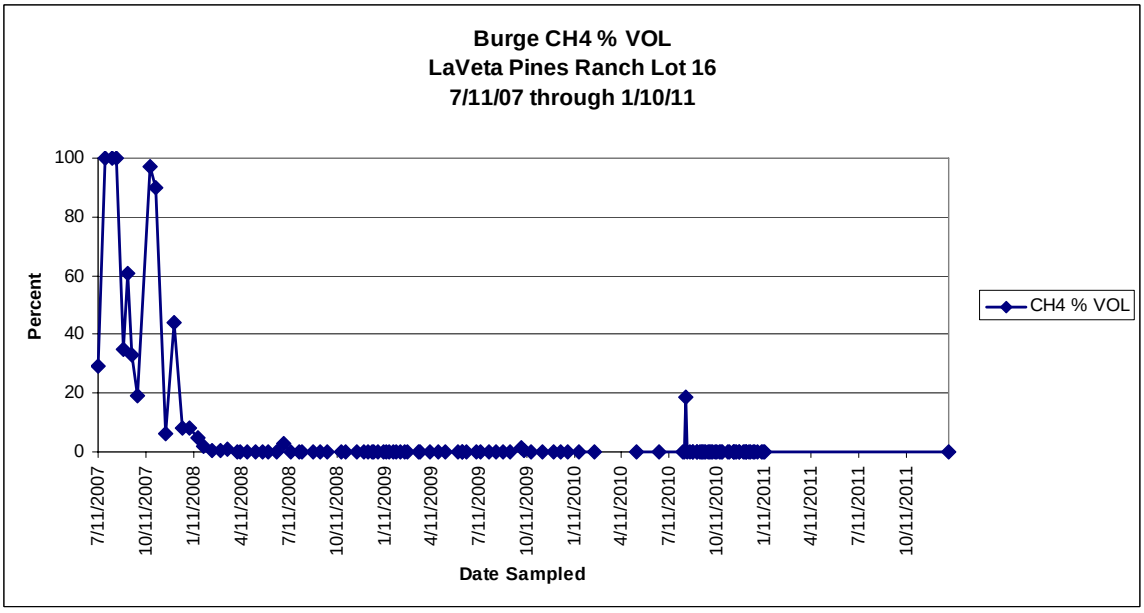

Bergman % LEL
River Ridge Ranch Lot 48
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
Date Sampled
% LEL


Bergman CH4 % VOL
River Ridge Ranch Lot 48
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
8/7/2007
10/7/2007
12/7/2007
2/7/2008
4/7/2008
6/7/2008
8/7/2008
10/7/2008
12/7/2008
2/7/2009
4/7/2009
6/7/2009
8/7/2009
10/7/2009
12/7/2009
2/7/2010
4/7/2010
6/7/2010
8/7/2010
10/7/2010
12/7/2010
Date Sampled
CH4 % VOL


Kerman % LEL
River Ridge Ranch Lot 78
7/6/07 through 1/10/11
Percent
100
80
60
40
20
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
Date Sampled
% LEL


Kerman CH4 % VOL
River Ridge Ranch Lot 78
7/6/07 through 1/10/11
Percent
50
40
30
20
10
0
7/6/2007
9/6/2007
11/6/2007
1/6/2008
3/6/2008
5/6/2008
7/6/2008
9/6/2008
11/6/2008
1/6/2009
3/6/2009
5/6/2009
7/6/2009
9/6/2009
11/6/2009
1/6/2010
3/6/2010
5/6/2010
7/6/2010
9/6/2010
11/6/2010
Date Sampled
CH4 % VOL


Burge % LEL
LaVeta Pines Ranch Lot 16
7/11/07 through 1/10/11
Percent
100
80
60
40
20
0
7/11/2007
9/11/2007
11/11/2007
1/11/2008
3/11/2008
5/11/2008
7/11/2008
9/11/2008
11/11/2008
1/11/2009
3/11/2009
5/11/2009
7/11/2009
9/11/2009
11/11/2009
1/11/2010
3/11/2010
5/11/2010
7/11/2010
9/11/2010
11/11/2010
1/11/2011
3/11/2011
5/11/2011
7/11/2011
9/11/2011
11/11/2011
Date Sampled
% LEL


Burge CH4 % VOL
LaVeta Pines Ranch Lot 16
7/11/07 through 1/10/11
Percent
100
80
60
40
20
0
7/11/2007
10/11/2007
1/11/2008
4/11/2008
7/11/2008
10/11/2008
1/11/2009
4/11/2009
7/11/2009
10/11/2009
1/11/2010
4/11/2010
7/11/2010
10/11/2010
1/11/2011
4/11/2011
7/11/2011
10/11/2011
Date Sampled
CH4 % VOL